



## **TAMU Project**

**Energy Consumption Data Quality Assurance/Quality  
Control Assessment Report for the  
Month of October 2017**

**Prepared for**

**Utility & Energy Services  
Division of Administration  
Texas A&M University**

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## **Acknowledgements**

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## **Executive Summary**

This report analyzes the energy use data collected from 595 meters in 206 buildings and complexes (approximately 20,468,000 GSF) on the campus of Texas A&M University in College Station, Texas. The report consists of five sections: 1) The summary of the monthly energy consumption per meter ID, 2) The quality control and assurance analysis of incorrect or incomplete energy use patterns, 3) Energy consumption time series plots, 4) Energy Balance plots, and 5) Energy Balance plots with filled-in consumption data. Section one contains the summary of monthly energy consumption for each of the TAMU buildings. Section two includes the reviews on each of those building energy use patterns that presented problems in the metered data. Section three and four are a collection of the plots generated for the energy use analysis, as reference to indicate and validate the quality of the metered energy data. The Section five includes the energy balance plots with filled-in energy data.

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## **I.Summary of Monthly Consumption**



Table I-1 October 2017 Monthly Consumption for TAMU Buildings

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
0270	Emerging Technologies Building	305,316	007469	ELE	187,181	kWh	
0270	Emerging Technologies Building	305,316	007470	ELE	48,689	kWh	
0270	Emerging Technologies Building	305,316	007471	CHW	1,851,369	mBtu	
0270	Emerging Technologies Building	305,316	007475	HHW	230,642	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007715	ELE	53,287	kWh	
0275	Liberal Arts and Arts & Humanities Building	107,500	007716	CHW	348,719	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007717	HHW	29,703	mBtu	
0290	Wells Residence Hall	67,283	006870	ELE	48,114	kWh	
0290	Wells Residence Hall	67,283	001984	CHW	916,927	mBtu	
0290	Wells Residence Hall	67,283	001988	HHW	528,941	mBtu	
0291	Rudder Residence Hall	67,283	000351	ELE	47,946	kWh	
0291	Rudder Residence Hall	67,283	002132	CHW	465,436	mBtu	(2)
0291	Rudder Residence Hall	67,283	002136	HHW	177,089	mBtu	(2)
0292	Eppright Residence Hall	67,283	000002	ELE	54,114	kWh	
0292	Eppright Residence Hall	67,283	002262	CHW	479,480	mBtu	
0292	Eppright Residence Hall	67,283	002266	HHW	157,787	mBtu	#, (1)
0293	Appelt Residence Hall	82,767	000003	ELE	64,203	kWh	
0293	Appelt Residence Hall	82,767	002062	CHW	781,314	mBtu	#, (1), (2)
0293	Appelt Residence Hall	82,767	002066	HHW	318,426	mBtu	#, (1), (2)
0294	Lechner Residence Hall	59,541	000004	ELE	51,103	kWh	
0294	Lechner Residence Hall	59,541	002285	CHW	675,655	mBtu	
0294	Lechner Residence Hall	59,541	002289	HHW	488,878	mBtu	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006536	ELE	126,623	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006537	ELE	113,836	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006534	CHW	1,224,683	mBtu	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006535	HHW	224,926	mBtu	
0353	Bright Aerospace Building	148,837	001569	ELE	166,842	kWh	
0353	Bright Aerospace Building	148,837	002746	CHW	1,372,126	mBtu	(2)
0353	Bright Aerospace Building	148,837	002757	HHW	63,441	mBtu	(2)
0358	Davis Football Player Development Center	20,026	007699	ELE	31,586	kWh	
0358	Davis Football Player Development Center	20,026	007701	CHW	197,841	mBtu	
0358	Davis Football Player Development Center	20,026	007702	HHW	6,365	mBtu	
0361	Bright Football Complex	124,971	008461	ELE	227,078	kWh	
0361	Bright Football Complex	124,971	002547	CHW	1,207,039	mBtu	
0361	Bright Football Complex	124,971	002551	HHW	150,012	mBtu	
0367	Kyle Field	489,000	000336	ELE	182,047	kWh	
0367	Kyle Field	489,000	008861	ELE	129,390	kWh	
0367	Kyle Field	489,000	008862	ELE	126,457	kWh	
0367	Kyle Field	489,000	008863	ELE	229,553	kWh	
0367	Kyle Field	489,000	008864	ELE	208,489	kWh	
0367	Kyle Field	489,000	008865	ELE	78,073	kWh	
0367	Kyle Field	489,000	008866	ELE	136,373	kWh	
0367	Kyle Field	489,000	008867	ELE	212,462	kWh	
0367	Kyle Field	489,000	008868	ELE	126,152	kWh	
0367	Kyle Field	489,000	008852	CHW	2,787,932	mBtu	
0367	Kyle Field	489,000	008026	CHW	3,510,125	mBtu	
0367	Kyle Field	489,000	008856	HHW	364,242	mBtu	
0367	Kyle Field	489,000	008027	HHW	991,398	mBtu	
0376	Chemistry Building Addition	115,797	006229	ELE	165,674	kWh	
0376	Chemistry Building Addition	115,797	006230	ELE	111,702	kWh	
0376	Chemistry Building Addition	115,797	007115	CHW	2,450,659	mBtu	
0376	Chemistry Building Addition	115,797	007119	HHW	738,792	mBtu	
0383	Koldus Building	110,272	001488	ELE	170,550	kWh	
0383	Koldus Building	110,272	002863	CHW	593,280	mBtu	
0383	Koldus Building	110,272	002874	HHW	163,730	mBtu	#, (1)
0384	Sanders Corps of Cadets Center	19,363	001554	ELE	25,078	kWh	
0384	Sanders Corps of Cadets Center	19,363	002583	CHW	202,176	mBtu	
0384	Sanders Corps of Cadets Center	19,363	002587	HHW	94,542	mBtu	
0325-0385	CE TTI Office & Lab Building	157,844	009122	ELE	164,183	kWh	
0325-0385	CE TTI Office & Lab Building	157,844	009123	CHW	878,675	mBtu	*, (2)
0325-0385	CE TTI Office & Lab Building	157,844	009124	HHW	172,300	mBtu	*, (2)
0386	Jack E. Brown Chemical Engineering Building	205,000	001428	ELE	150,629	kWh	
0386	Jack E. Brown Chemical Engineering Building	205,000	001429	ELE	331,672	kWh	
0386	Jack E. Brown Chemical Engineering Building	205,000	002250	CHW	3,136,543	mBtu	*
0386	Jack E. Brown Chemical Engineering Building	205,000	006871	CHW	114,794	mBtu	*
0386	Jack E. Brown Chemical Engineering Building	205,000	002254	HHW	514,442	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005870	ELE	84,173	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005872	ELE	104,599	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005805	CHW	1,153,851	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005809	HHW	240,190	mBtu	#, (1)
0391-0392	James J. Cain '51 and Mechanical Engineering Office Building	173,481	001573	ELE	208,530	kWh	
0391-0392	James J. Cain '51 and Mechanical Engineering Office Building	173,481	002906	CHW	1,350,457	mBtu	
0391-0392	James J. Cain '51 and Mechanical Engineering Office Building	173,481	002910	HHW	213,917	mBtu	

Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
0394	Underwood Residence Hall	81,730	000014	ELE	64,933	kWh	
0394	Underwood Residence Hall	81,730	002117	CHW	492,546	mBtu	(2)
0394	Underwood Residence Hall	81,730	002121	HHW	93,772	mBtu	#, (1), (2)
0398	Langford Architecture Center Building A	116,619	003806	ELE	128,815	kWh	
0398	Langford Architecture Center Building A	116,619	003951	CHW	735,627	mBtu	(2)
0398	Langford Architecture Center Building A	116,619	003955	HHW	139,925	mBtu	(2)
0400-0402-1405	Spence Hall, Briggs Hall, and Ash II LLC	108,555	009386	ELE	93,851	kWh	
0400	Spence Hall Dorm 1	38,907	009290	ELE	14,580	kWh	
0400	Spence Hall Dorm 1	38,907	009291	ELE	17,992	kWh	
0400-1405	Spence Hall and Ash II LLC	72,038	009292	CHW	527,612	mBtu	
0400-1405	Spence Hall and Ash II LLC	72,038	009296	HHW	132,972	mBtu	
1405	Ash II LLC	33,131	009387	CHW	221,442	mBtu	
1405	Ash II LLC	33,131	009391	HHW	42,149	mBtu	
0402	Briggs Hall Dorm 3	36,517	009322	ELE	17,878	kWh	
0402	Briggs Hall Dorm 3	36,517	009323	ELE	13,763	kWh	
0402	Briggs Hall Dorm 3	36,517	009324	CHW	324,803	mBtu	
0402	Briggs Hall Dorm 3	36,517	009328	HHW	72,208	mBtu	
0401-0403-1404	Kiest Hall, Fountain Hall, and Plank LLC	108,752	009370	ELE	91,901	kWh	
0401	Kiest Hall Dorm 2	38,815	009306	ELE	13,378	kWh	
0401	Kiest Hall Dorm 2	38,815	009307	ELE	14,769	kWh	
0401-1404	Kiest Hall, and Plank LLC	72,052	009308	CHW	587,433	mBtu	
0401-1404	Kiest Hall, and Plank LLC	72,052	009312	HHW	172,012	mBtu	
1404	Plank LLC	33,237	009372	CHW	282,355	mBtu	
1404	Plank LLC	33,237	009376	HHW	70,523	mBtu	
0403	Fountain Hall Dorm 4	36,700	009338	ELE	14,586	kWh	
0403	Fountain Hall Dorm 4	36,700	009339	ELE	15,470	kWh	
0403	Fountain Hall Dorm 4	36,700	009340	CHW	313,691	mBtu	
0403	Fountain Hall Dorm 5	36,700	009344	HHW	82,810	mBtu	
0404-0406-1403	Gainer Hall, Leonard Hall and Ash LLC	90,072	009401	ELE	75,075	kWh	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	53,508	007982	CHW	399,297	mBtu	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	53,508	007983	HHW	65,502	mBtu	
0406	Leonard Hall - Dorm 7	36,222	008011	ELE	13,848	kWh	
0406	Leonard Hall - Dorm 7	36,222	008012	ELE	15,244	kWh	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008005	CHW	101,860	mBtu	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008006	HHW	6,757	mBtu	
0404	Gainer Hall Dorm 5	36,564	009354	ELE	13,887	kWh	
0404	Gainer Hall Dorm 5	36,564	009355	ELE	14,042	kWh	
0404	Gainer Hall Dorm 5	36,564	009356	CHW	290,200	mBtu	
0404	Gainer Hall Dorm 5	36,564	009360	HHW	74,736	mBtu	#, (1)
0405-0407-1402	Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center	91,310	007721	ELE	80,042	kWh	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007722	CHW	444,499	mBtu	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007723	HHW	67,018	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007922	ELE	30,191	kWh	
0405	Lacy Hall - Dorm 6	36,867	007918	CHW	307,960	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007919	HHW	72,999	mBtu	
0407	Harrell Hall - Dorm 8	36,943	007729	ELE	32,147	kWh	
1402	Buzbee Leadership Learning Center	17,500	007725	CHW	188,507	mBtu	
1402	Buzbee Leadership Learning Center	17,500	007726	HHW	3,085	mBtu	
0408	Whitely Hall - Dorm 9	36,893	010031	ELE	32,647	kWh	
0408	Whitely Hall - Dorm 9	36,893	010035	CHW	316,121	mBtu	
0408	Whitely Hall - Dorm 9	36,893	010036	HHW	67,610	mBtu	
0409	White Hall - Dorm 10	36,893	010032	ELE	33,555	kWh	
0409	White Hall - Dorm 10	36,893	010039	CHW	338,870	mBtu	
0409	White Hall - Dorm 10	36,893	010040	HHW	90,432	mBtu	
0410	Harrington Hall - Dorm 11	36,893	010033	ELE	31,728	kWh	
0410	Harrington Hall - Dorm 11	36,893	010043	CHW	303,585	mBtu	
0410	Harrington Hall - Dorm 11	36,893	010044	HHW	56,793	mBtu	
0411	Utay Hall - Dorm 12	36,943	010034	ELE	33,066	kWh	
0411	Utay Hall - Dorm 12	36,943	010047	CHW	341,894	mBtu	
0411	Utay Hall - Dorm 12	36,943	010048	HHW	90,222	mBtu	
0412	Moses Residence Hall	40,828	000027	ELE	42,222	kWh	
0412	Moses Residence Hall	40,828	002384	CHW	559,252	mBtu	
0412	Moses Residence Hall	40,828	002395	HHW	153,645	mBtu	
0415	Davis-Gary Residence Hall	40,828	000030	ELE	36,065	kWh	
0415	Davis-Gary Residence Hall	40,828	002532	CHW	423,978	mBtu	
0415	Davis-Gary Residence Hall	40,828	002543	HHW	201,844	mBtu	#, (1)
0419	Legett Residence Hall	45,134	000031	ELE	16,479	kWh	
0419	Legett Residence Hall	45,134	002218	CHW	282,222	mBtu	(2)
0419	Legett Residence Hall	45,134	002222	HHW	73,184	mBtu	(2)
0420	Milner Hall	48,268	009144	ELE	27,500	kWh	
0420	Milner Hall	48,268	009145	CHW	186,455	mBtu	
0420	Milner Hall	48,268	009146	HHW	45,911	mBtu	
0422	Walton Residence Hall	51,494	000378	ELE	79,140	kWh	
0422	Walton Residence Hall	51,494	002364	HHW	39,991	mBtu	

Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
0424	Hotard Hall	18,500	000032	ELE	14,437	kWh	
0424	Hotard Hall	18,500	002657	CHW	155,737	mBtu	
0424	Hotard Hall	18,500	002668	HHW	71,009	mBtu	
0425	Henderson Hall	22,185	001553	ELE	16,917	kWh	
0425	Henderson Hall	22,185	002607	CHW	195,068	mBtu	
0425	Henderson Hall	22,185	002611	HHW	76,465	mBtu	
0426-0427-0428	FHK Complex	154,349	000331	ELE	120,629	kWh	
0426-0427-0428	FHK Complex	154,349	002848	CHW	1,067,493	mBtu	(2)
0426-0427-0428	FHK Complex	154,349	002859	HHW	380,375	mBtu	
0430	Schumacher Residence Hall	38,957	000034	ELE	33,445	kWh	
0430	Schumacher Residence Hall	38,957	002015	CHW	344,777	mBtu	
0430	Schumacher Residence Hall	38,957	002030	HHW	106,212	mBtu	# (1)
0359	Architecture Building B	28,545	005518	ELE	22,322	kWh	
0432	Architecture Building C	73,020	005584	ELE	87,283	kWh	
0359-0432	Architecture Building B&C	101,565	006419	CHW	682,980	mBtu	
0359-0432	Architecture Building B&C	101,565	006423	HHW	220,787	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	005555	ELE	134,742	kWh	
0434	Luedecke Building (Cyclotron)	80,646	005558	ELE	1,119,779	kWh	
0434	Luedecke Building (Cyclotron)	80,646	006664	CHW	1,975,249	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	006668	HHW	150,204	mBtu	
0435	Harrington Education Center Office Tower	130,844	001546	ELE	119,459	kWh	
0435	Harrington Education Center Office Tower	130,844	002792	CHW	684,545	mBtu	
0435	Harrington Education Center Office Tower	130,844	002796	HHW	386,294	mBtu	# (1)
0436	Reed-McDonald Building	77,435	006868	ELE	101,210	kWh	
0436	Reed-McDonald Building	77,435	002419	CHW	1,221,446	mBtu	
0436	Reed-McDonald Building	77,435	002423	HHW	368,088	mBtu	
0438	Harrington Education Center Classroom Building	61,860	003630	ELE	45,652	kWh	
0438	Harrington Education Center Classroom Building	61,860	002784	CHW	282,852	mBtu	
0438	Harrington Education Center Classroom Building	61,860	002788	HHW	97	mBtu	
0433-0440-0441-0442-0447	Mosher Commons Krueger Dunn Aston	577,584	009099	ELE	323,666	kWh	
0433	Mosher Residence Hall	155,430	009083	ELE	109,960	kWh	
0433	Mosher Residence Hall	155,430	002485	CHW	594,298	mBtu	(2)
0433	Mosher Residence Hall	155,430	002489	HHW	212,137	mBtu	(2)
0440-0441	Commons Krueger	196,633	009833	ELE	193,043	kWh	*
0440	Commons Hall	84,500	009237	CHW	905,343	mBtu	(2)
0440	Commons Hall	84,500	009238	HHW	188,362	mBtu	
0441	Krueger Residence Hall	112,133	009091	ELE	48,752	kWh	
0441	Krueger Residence Hall	112,133	009828	ELE	23,132	kWh	
0441	Krueger Residence Hall	112,133	002504	CHW	765,202	mBtu	# (1)
0441	Krueger Residence Hall	112,133	002500	HHW	289,003	mBtu	# (1)
0442	Dunn Residence Hall	112,133	009095	ELE	87,957	kWh	(2)
0442	Dunn Residence Hall	112,133	002519	CHW	776,973	mBtu	
0442	Dunn Residence Hall	112,133	002515	HHW	329,803	mBtu	# (1)
0447	Aston Residence Hall	113,388	009087	ELE	76,783	kWh	
0447	Aston Residence Hall	113,388	002474	CHW	985,167	mBtu	
0447	Aston Residence Hall	113,388	002470	HHW	507,862	mBtu	# (1)
0443	Oceanography & Meteorology Building	180,316	005322	ELE	185,768	kWh	
0443	Oceanography & Meteorology Building	180,316	005323	ELE	66,466	kWh	
0443	Oceanography & Meteorology Building	180,316	006388	CHW	1,438,354	mBtu	
0443	Oceanography & Meteorology Building	180,316	006392	HHW	404,253	mBtu	(2)
0444	Peterson Building	84,831	004714	ELE	175,120	kWh	
0444	Peterson Building	84,831	002922	CHW	1,096,531	mBtu	# (1)
0444	Peterson Building	84,831	006435	HHW	337,439	mBtu	
0445-0517	Teague Research Center and DPC Annex	89,735	003948	ELE	24,393	kWh	
0445-0517	Teague Research Center and DPC Annex	89,735	004719	ELE	52,072	kWh	
0445	Teague Research Center	63,515	006411	CHW	293,404	mBtu	
0445	Teague Research Center	63,515	006415	HHW	31,532	mBtu	
0517	DPC Annex	26,220	006563	CHW	496,312	mBtu	
0517	DPC Annex	26,220	006567	HHW	152,604	mBtu	(2)
0446	Rudder Theatre Complex	209,293	002977	ELE	103,255	kWh	# (1)
0446	Rudder Theatre Complex	209,293	002980	ELE	33,121	kWh	# (1)
0446	Rudder Theatre Complex	209,293	004297	CHW	1,718,530	mBtu	# (1)
0446	Rudder Theatre Complex	209,293	004309	HHW	969,785	mBtu	# (1)
0446	Rudder Tower	92,947	001550	ELE	32,528	kWh	
0446	Rudder Tower	92,947	001551	ELE	61,907	kWh	
0446	Rudder Tower	92,947	002455	CHW	778,767	mBtu	
0446	Rudder Tower	92,947	002459	HHW	233,295	mBtu	
0448	Adams Band Hall	55,248	000978	ELE	72,650	kWh	
0448	Adams Band Hall	55,248	002555	CHW	502,152	mBtu	# (1)
0448	Adams Band Hall	55,248	002566	HHW	301,394	mBtu	# (1)
0449	Biological Sciences Building - West	96,038	003978	ELE	178,401	kWh	
0449	Biological Sciences Building - West	96,038	003981	CHW	1,230,125	mBtu	
0449	Biological Sciences Building - West	96,038	003985	HHW	333,385	mBtu	

Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
0450	Duncan Dining Hall	128,482	000300	ELE	122,838	kWh	
0450	Duncan Dining Hall	128,482	002998	CHW	781,620	mBtu	
0450	Duncan Dining Hall	128,482	003009	HHW	50,169	mBtu	
0454	MSC (East Main)	392,000	007600	ELE	306,707	kWh	
0454	MSC (West Main)	392,000	007601	ELE	218,660	kWh	
0454	MSC BOR	392,000	008047	ELE	23,922	kWh	
0454	MSC	392,000	007584	CHW	2,682,916	mBtu	
0454	MSC BOR	392,000	004184	CHW	433,383	mBtu	
0454	MSC	392,000	007585	HHW	316,925	mBtu	
0454	MSC BOR	392,000	004196	HHW	241,721	mBtu	
0456	Military Sciences Building	43,808	006939	CHW	471,014	mBtu	*
0456	Military Sciences Building	43,808	006943	HHW	203,328	mBtu	*
0457	TAES Annex Building	16,364	005863	ELE	13,938	kWh	
0457	TAES Annex Building	16,364	005913	CHW	73,284	mBtu	
0457	TAES Annex Building	16,364	005917	HHW	22,732	mBtu	
0461	Coke Building	24,466	004008	ELE	27,839	kWh	
0461	Coke Building	24,466	005307	CHW	111,852	mBtu	
0461	Coke Building	24,466	004023	HHW	8,211	mBtu	
0462	Academic Building	82,555	005861	ELE	20,541	kWh	
0462	Academic Building	82,555	005903	ELE	38,729	kWh	
0462	Academic Building	82,555	005905	CHW	496,293	mBtu	
0462	Academic Building	82,555	005909	HHW	219,827	mBtu	
0463	Psychology Building	48,215	001575	ELE	46,281	kWh	
0463	Psychology Building	48,215	002941	CHW	458,113	mBtu	(2)
0463	Psychology Building	48,215	002945	HHW	42,266	mBtu	
0464	State Chemist Building	20,027	005839	ELE	8,953	kWh	
0464	State Chemist Building	20,027	005837	ELE	6,253	mBtu	(2)
0464	State Chemist Building	20,027	005841	HHW	19,042	mBtu	
0465	Butler Hall	29,699	003997	ELE	36,549	kWh	
0465	Butler Hall	29,699	004000	CHW	298,372	mBtu	
0465	Butler Hall	29,699	004004	HHW	89,320	mBtu	
0467	Biological Sciences Building - East	62,273	001543	ELE	190,803	kWh	
0467	Biological Sciences Building - East	62,273	003851	CHW	787,174	mBtu	# (1)
0467	Biological Sciences Building - East	62,273	003862	HHW	100,641	mBtu	
0468	Evans Library	712,093	000304	ELE	254,901	kWh	
0468	Evans Library	712,093	000318	ELE	136,501	kWh	*
0468	Evans Library	712,093	000319	ELE	104,692	kWh	
0468	Evans Library	712,093	000320	ELE	91,786	kWh	
0468	Evans Library	712,093	006429	ELE	83,338	kWh	
0468	Evans Library	712,093	003701	CHW	1,620,271	mBtu	
0468	Evans Library	712,093	003895	CHW	1,315,337	mBtu	
0468	Evans Library	712,093	003903	CHW	318,348	mBtu	
0468	Evans Library	712,093	003911	CHW	1,143,525	mBtu	
0468	Evans Library	712,093	003712	HHW	174,852	mBtu	# (1)
0468	Evans Library	712,093	003899	HHW	193,180	mBtu	
0468	Evans Library	712,093	003907	HHW	29,699	mBtu	
0468	Evans Library	712,093	003922	HHW	165,375	mBtu	
0468	Evans Library	712,093	005303	HHW	36,205	mBtu	
0469	Central Campus Parking Garage	251,304	000306	ELE	45,448	kWh	
0469	Central Campus Parking Garage	2,844	003716	CHW	32,878	mBtu	
0469	Central Campus Parking Garage	2,844	003720	HHW	7,349	mBtu	
0470	Glasscock History Bldg	39,887	006407	ELE	19,694	kWh	
0470	Glasscock History Bldg	39,887	006638	CHW	165,728	mBtu	
0470	Glasscock History Bldg	39,887	006642	HHW	16,708	mBtu	
0471	Pavilion	40,062	001455	ELE	36,567	kWh	
0471	Pavilion	40,062	002769	CHW	214,181	mBtu	
0471	Pavilion	40,062	002780	HHW	13,925	mBtu	
0472	Animal Industries	44,856	009042	ELE	55,791	kWh	
0472	Animal Industries	44,856	009109	CHW	393,994	mBtu	
0472	Animal Industries	44,856	009113	HHW	91,270	mBtu	
0473	Williams Administration Building	69,898	007945	ELE	47,290	kWh	
0473	Williams Administration Building	69,898	007946	CHW	373,663	mBtu	
0473	Williams Administration Building	69,898	007947	HHW	93,313	mBtu	
0474	YMCA Building	36,035	007524	ELE	25,066	kWh	
0474	YMCA Building	36,035	007525	CHW	144,057	mBtu	
0474	YMCA Building	36,035	007526	HHW	4,023	mBtu	
0476	Francis Hall	36,850	008015	ELE	35,696	kWh	
0476	Francis Hall	36,850	008033	CHW	302,504	mBtu	# (1)
0476	Francis Hall	36,850	008034	HHW	12,789	mBtu	
0477	Anthropology Building	51,592	001558	ELE	35,830	kWh	
0477	Anthropology Building	51,592	003664	CHW	356,248	mBtu	# (1)
0477	Anthropology Building	51,592	003668	HHW	74,084	mBtu	# (1)

Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
0478	Scoates Hall	62,228	007961	ELE	53,719	kWh	
0478	Scoates Hall	62,228	007968	CHW	447,253	mBtu	
0478	Scoates Hall	62,228	007969	HHW	89,713	mBtu	# (1)
0480	Bolton Hall	39,686	006845	ELE	34,369	kWh	
0480	Bolton Hall	39,686	007012	CHW	189,930	mBtu	
0480	Bolton Hall	39,686	007016	HHW	32,631	mBtu	
0481	Heaton Hall	13,640	005712	ELE	NA	kWh	*
0481	Heaton Hall	13,640	007531	CHW	121,263	mBtu	
0481	Heaton Hall	13,640	007535	HHW	56,217	mBtu	
0482	Fermier Hall	19,074	005779	ELE	15,209	kWh	
0482	Fermier Hall	19,074	005878	CHW	106,277	mBtu	
0482	Fermier Hall	19,074	005881	HHW	5,910	mBtu	
0483	Thompson Hall	81,404	003688	ELE	77,788	kWh	
0483	Thompson Hall	81,404	003887	CHW	366,206	mBtu	
0483	Thompson Hall	81,404	003891	HHW	25,715	mBtu	
0484	Chemistry Building	205,393	007152	ELE	188,566	kWh	(2)
0484	Chemistry Building	205,393	007556	ELE	11,301	kWh	
0484	Chemistry Building	205,393	007557	ELE	9,237	kWh	(2)
0484	Chemistry Building	205,393	007559	ELE	166,893	kWh	
0484	Chemistry Building	205,393	007028	CHW	2,242,235	mBtu	
0484	Chemistry Building	205,393	007223	CHW	2,980,868	mBtu	
0484	Chemistry Building	205,393	007032	HHW	322,064	mBtu	
0484	Chemistry Building	205,393	007227	HHW	975,798	mBtu	
0490	Halbouty Geosciences Building	120,874	006691	ELE	57,763	kWh	
0490	Halbouty Geosciences Building	120,874	006695	ELE	101,030	kWh	
0490	Halbouty Geosciences Building	120,874	006896	CHW	1,328,737	mBtu	
0490	Halbouty Geosciences Building	120,874	006913	CHW	570,329	mBtu	
0490	Halbouty Geosciences Building	120,874	006900	HHW	414,921	mBtu	
0490	Halbouty Geosciences Building	120,874	006917	HHW	178,054	mBtu	
0492	Civil Engineering Building	56,537	005783	ELE	56,637	kWh	(2)
0492	Civil Engineering Building	56,537	005950	CHW	277,949	mBtu	(2)
0492	Civil Engineering Building	56,537	005954	HHW	57,428	mBtu	(2)
0495	Sbisa Dining Hall	94,233	000352	ELE	156,538	kWh	
0495	Sbisa Dining Hall	94,233	000353	ELE	136,443	kWh	
0495	Sbisa Dining Hall	94,233	001951	CHW	1,259,002	mBtu	
0495	Sbisa Dining Hall	94,233	001957	HHW	102,395	mBtu	
0496	Utilities & Energy Services Central Office	46,110	007706	ELE	10,211	kWh	(2)
0496	Utilities & Energy Services Central Office	46,110	006929	CHW	136,422	mBtu	(2)
0496	Utilities & Energy Services Central Office	46,110	006933	HHW	8,680	mBtu	(2)
0499	Engineering Innovation Center	28,339	001561	ELE	25,834	kWh	
0499	Engineering Innovation Center	28,339	002672	CHW	87,730	mBtu	*
0499	Engineering Innovation Center	28,339	002683	HHW	43,256	mBtu	*
0501	Concrete Materials Laboratory	9,600	005791	ELE	9,350	kWh	
0506	Nagle Hall	32,306	001484	ELE	2,598	kWh	(2)
0506	Nagle Hall	32,306	003619	CHW	192,321	mBtu	(1), (2)
0506	Nagle Hall	32,306	003623	HHW	9,725	mBtu	(2)
0507	Veterinary Medical Science Building	69,367	003013	ELE	80,751	kWh	
0507	Veterinary Medical Science Building	69,367	003640	CHW	1,060,759	mBtu	
0507	Veterinary Medical Science Building	69,367	003644	HHW	431,010	mBtu	
0508	Veterinary Teaching Hospital	96,416	003022	ELE	91,454	kWh	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	004166	CHW	1,782,538	mBtu	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	009694	HHW	532,696	mBtu	
0511	Heep Laboratory Building	40,476	005787	ELE	42,121	kWh	(2)
0511	Heep Laboratory Building	40,476	005821	CHW	378,270	mBtu	#, (2)
0511	Heep Laboratory Building	40,476	005825	HHW	180,693	mBtu	(2)
0512	All Faiths Chapel	8,999	004340	ELE	7,494	kWh	
0512	All Faiths Chapel	8,999	004288	CHW	92,441	mBtu	
0512	All Faiths Chapel	8,999	004293	HHW	10,984	mBtu	
0513	Doherty Building	42,336	000299	ELE	52,471	kWh	
0513	Doherty Building	42,336	002898	CHW	627,216	mBtu	
0513	Doherty Building	42,336	002902	HHW	299,987	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007558	ELE	12,925	kWh	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007487	CHW	96,592	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007491	HHW	16,093	mBtu	
0516	Computing Services Center	30,014	005259	ELE	561,405	kWh	
0516	Computing Services Center	30,014	003959	CHW	1,850,059	mBtu	(2)
0516	Computing Services Center	30,014	003963	HHW	0	mBtu	
0518	Zachry Engineering Education Complex	464,400	009874	ELE	137,195	kWh	*
0518	Zachry Engineering Education Complex	464,400	009875	ELE	91,786	kWh	*
0518	Zachry Engineering Education Complex	464,400	009964	CHW	3,006,412	mBtu	*
0518	Zachry Engineering Education Complex	464,400	009965	HHW	749,691	mBtu	*
0520	Beutel Health Center	63,318	003785	ELE	64,997	kWh	
0520	Beutel Health Center	63,318	003933	CHW	452,978	mBtu	(1)
0520	Beutel Health Center	63,318	003944	HHW	59,647	mBtu	(1), (2)

Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
0521	Heldenfels Hall	104,949	001547	ELE	113,467	kWh	
0521	Heldenfels Hall	104,949	002962	CHW	1,094,956	mBtu	
0521	Heldenfels Hall	104,949	002973	HHW	133,561	mBtu	
0524	Blocker Building	257,953	001545	ELE	199,576	kWh	*
0524	Blocker Building	257,953	002914	CHW	968,711	mBtu	(2)
0524	Blocker Building	257,953	002918	HHW	2,424	mBtu	(2)
0548	Clements Residence Hall	62,156	000048	ELE	42,187	kWh	
0548	Clements Residence Hall	62,156	002729	CHW	815,853	mBtu	
0548	Clements Residence Hall	62,156	002740	HHW	364,022	mBtu	
0549	Haas Residence Hall	69,668	001398	ELE	47,025	kWh	
0549	Haas Residence Hall	69,668	002983	CHW	964,013	mBtu	
0549	Haas Residence Hall	69,668	002994	HHW	635,313	mBtu	(1)
0550	McFadden Residence Hall	62,156	000339	ELE	42,720	kWh	
0550	McFadden Residence Hall	62,156	002188	CHW	850,060	mBtu	
0550	McFadden Residence Hall	62,156	002192	HHW	496,874	mBtu	
0652	Neeley Residence Hall	69,668	000056	ELE	56,370	kWh	
0652	Neeley Residence Hall	69,668	002147	CHW	480,018	mBtu	
0652	Neeley Residence Hall	69,668	002151	HHW	170,836	mBtu	(2)
0653	Hobby Residence Hall	62,156	000057	ELE	50,361	kWh	
0653	Hobby Residence Hall	62,156	002401	CHW	783,432	mBtu	
0653	Hobby Residence Hall	62,156	002405	HHW	340,806	mBtu	
0682	Wisenbaker Engineering Research Center	177,704	005246	ELE	242,544	kWh	
0682	Wisenbaker Engineering Research Center	177,704	003879	CHW	1,733,280	mBtu	
0682	Wisenbaker Engineering Research Center	177,704	003883	HHW	328,979	mBtu	
0740	McNew Laboratory	20,904	005874	ELE	58,333	kWh	(2)
0740	McNew Laboratory	20,904	005974	CHW	396,876	mBtu	(2)
0740	McNew Laboratory	20,904	005968	HHW	15,205	mBtu	(2)
0806	Soil Testing Labs	5,544	006875	ELE	22,497	kWh	
0815	Entomology Research Lab	17,618	005799	ELE	31,552	kWh	(1)
0815	Entomology Research Lab	17,618	006043	CHW	152,895	mBtu	(1)
0880	TVMC-Small Animal Building	3,260	005958	CHW	27,392	mBtu	
0880	TVMC-Small Animal Building	3,260	005962	HHW	145	mBtu	
0971	Dollar Data Center	67,799	010002	ELE	133,174	kWh	*
0971	Dollar Data Center	67,799	010003	ELE	31,164	kWh	*
0972	Laboratory Animal Care Building	52,178	007063	ELE	127,740	kWh	
0972	Laboratory Animal Care Building	52,178	007067	ELE	52,429	kWh	
0972	Laboratory Animal Care Building	52,178	007071	CHW	2,030,922	mBtu	
0972	Laboratory Animal Care Building	52,178	006991	HHW	347,918	mBtu	
1020	Vivarium III	12,234	005857	ELE	25,752	kWh	
1020	Vivarium III	12,234	005997	CHW	224,884	mBtu	
1020	Vivarium III	12,234	006001	HHW	61,330	mBtu	
1026	Veterinary Medicine Administration	94,680	006072	ELE	130,164	kWh	
1026	Veterinary Medicine Administration	94,680	006049	CHW	1,058,419	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	001466	ELE	59,745	kWh	(2)
1041	Texas Vet Med Diagnostic Lab	55,169	001539	ELE	29,978	kWh	(2)
1041	Texas Vet Med Diagnostic Lab	55,169	003817	CHW	406,370	mBtu	(2)
1041	Texas Vet Med Diagnostic Lab	55,169	004137	CHW	717,605	mBtu	(2)
1041	Texas Vet Med Diagnostic Lab	55,169	003821	HHW	33,160	mBtu	(2)
1041	Texas Vet Med Diagnostic Lab	55,169	004130	HHW	112,693	mBtu	(2)
1042	Forest Science Laboratory Building	9,632	006036	ELE	27,217	kWh	*
1085	Veterinary Small Animal Hospital	103,440	004136	ELE	236,775	kWh	
1085	Veterinary Small Animal Hospital	103,440	003656	CHW	1,620,152	mBtu	
1085	Veterinary Small Animal Hospital	103,440	003660	HHW	423,050	mBtu	
1089	Utilities Energy Office Annex	2,937	006964	ELE	6,056	kWh	
1146	Biological Control Facility	13,492	005795	ELE	35,471	kWh	
1146	Biological Control Facility	13,492	005887	CHW	154,906	mBtu	
1146	Biological Control Facility	13,492	005891	HHW	40,361	mBtu	
1156	Physical Plant Administration & Shops	101,704	007483	ELE	116,473	kWh	
1156	Physical Plant Administration & Shops	101,704	007679	CHW	366,036	mBtu	(2)
1156	Physical Plant Administration & Shops	101,704	007683	HHW	110,508	mBtu	
1184	Veterinary Anatomic Pathology	17,223	001445	ELE	59,351	kWh	
1184	Veterinary Anatomic Pathology	17,223	006995	CHW	366,478	mBtu	
1184	Veterinary Anatomic Pathology	17,223	006999	HHW	119,130	mBtu	
1194	Veterinary Large Animal Hospital	140,865	005256	ELE	98,109	kWh	
1194	Veterinary Large Animal Hospital	140,865	003016	ELE	73,477	kWh	
1194	Veterinary Large Animal Hospital	140,865	007455	ELE	44,219	kWh	
1194	Veterinary Large Animal Hospital	140,865	003648	CHW	1,658,205	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007456	CHW	291,979	mBtu	
1194	Veterinary Large Animal Hospital	140,865	003652	HHW	595,580	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007457	HHW	45,123	mBtu	
1197	Veterinary Research Building	114,666	006355	ELE	69,576	kWh	
1197	Veterinary Research Building	114,666	006359	ELE	34,204	kWh	
1197	Veterinary Research Building	114,666	006062	CHW	2,040,146	mBtu	
1197	Veterinary Research Building	114,666	006066	HHW	404,570	mBtu	



Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
1416	Hullabaloo Residence Hall	253,452	007845	ELE	197,580	kWh	
1416	Hullabaloo Residence Hall	253,452	007846	CHW	1,166,065	mBtu	
1416	Hullabaloo Residence Hall	253,452	007847	HHW	111,069	mBtu	
1450	University Apartments - Laundry at the Gardens	1,428	006885	ELE	6,510	kWh	
1451	University Apartments - The Gardens J	33,535	006981	ELE	19,852	kWh	
1452	University Apartments - The Gardens K	33,535	006979	ELE	21,373	kWh	
1453	University Apartments - The Gardens L	33,535	006884	ELE	20,482	kWh	
1454	University Apartments - The Gardens F	33,535	006980	ELE	21,212	kWh	*
1455	University Apartments - The Gardens G	33,535	006882	ELE	19,110	kWh	*
1456	University Apartments - The Gardens H	33,535	007962	ELE	18,381	kWh	
1457	University Apartments - The Gardens M	33,535	007503	ELE	20,760	kWh	
1458	University Apartments - The Gardens N	33,535	007504	ELE	20,559	kWh	
1459	University Apartments - The Gardens P	33,535	007505	ELE	21,757	kWh	
1460	University Apartments - The Gardens Q	33,535	007506	ELE	23,050	kWh	
1497	Utilities & Energy Services Business Office	3,480	007082	ELE	4,680	kWh	
1497	Utilities & Energy Services Business Office	3,480	006341	CHW	25,995	mBtu	
1497	Utilities & Energy Services Business Office	3,480	006345	HHW	1,692	mBtu	
1501	Kleberg Center	165,031	007449	ELE	287,291	kWh	*
1501	Kleberg Center	165,031	002624	CHW	1,386,472	mBtu	*
1501	Kleberg Center	165,031	002628	HHW	621,050	mBtu	*, (1)
1502	Heep Center	158,979	001556	ELE	275,719	kWh	
1502	Heep Center	158,979	002599	CHW	2,048,587	mBtu	
1502	Heep Center	158,979	002603	HHW	276,995	mBtu	
1503	Cater-Mattil Hall	27,958	007977	ELE	86,868	kWh	
1503	Cater-Mattil Hall	27,958	008001	CHW	427,919	mBtu	
1504	Reynolds Medical Sciences Building	169,859	003975	ELE	284,230	kWh	
1504	Reynolds Medical Sciences Building	169,859	003989	CHW	2,169,423	mBtu	*
1504	Reynolds Medical Sciences Building	169,859	003993	HHW	578,044	mBtu	*
1505	Rosenthal Meat Science & Technology Center	30,889	003627	ELE	132,360	kWh	
1505	Rosenthal Meat Science & Technology Center	30,889	002573	CHW	200,676	mBtu	
1505	Rosenthal Meat Science & Technology Center	30,889	002577	HHW	20	mBtu	(2)
1506	Horticulture-Forest Science Building	118,648	001544	ELE	166,677	kWh	
1506	Horticulture-Forest Science Building	118,648	003967	CHW	692,166	mBtu	
1506	Horticulture-Forest Science Building	118,648	003971	HHW	116,882	mBtu	
1507	Biochemistry-Biophysics Building	166,079	001459	ELE	172,648	kWh	
1507	Biochemistry-Biophysics Building	166,079	001460	ELE	179,224	kWh	
1507	Biochemistry-Biophysics Building	166,079	003025	CHW	1,827,715	mBtu	
1507	Biochemistry-Biophysics Building	166,079	003029	HHW	656,410	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	005638	ELE	25,010	kWh	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006005	CHW	167,580	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006009	HHW	36,863	mBtu	
1509	Medical Sciences Library	84,183	000350	ELE	92,938	kWh	(2)
1509	Medical Sciences Library	84,183	003777	CHW	449,172	mBtu	(2)
1509	Medical Sciences Library	84,183	003781	HHW	164,052	mBtu	(2)
1510	Wehner Building	259,681	006849	ELE	214,193	kWh	
1510	Wehner Building	259,681	006685	ELE	244,824	kWh	
1510	Wehner Building	259,681	002687	CHW	1,839,006	mBtu	
1510	Wehner Building	259,681	002691	HHW	332,133	mBtu	
1511	West Campus Library Facility	68,125	004342	ELE	93,883	kWh	
1511	West Campus Library Facility	68,125	004313	CHW	608,489	mBtu	
1511	West Campus Library Facility	68,125	004318	HHW	94,923	mBtu	
1512	Southern Crop Improvement Greenhouse	48,154	005931	ELE	96,668	kWh	#, (1)
1513	Borlaug Center for Southern Crop Improvement	68,739	005802	ELE	303,258	kWh	
1513	Borlaug Center for Southern Crop Improvement	68,739	005936	CHW	1,101,301	mBtu	
1513	Borlaug Center for southern Crop Improvement	68,739	005895	HHW	163,102	mBtu	
1518	TX School of Rural Public Health A	69,079	005273	ELE	71,434	kWh	
1519	TX School of Rural Public Health B	24,761	005274	ELE	56,118	kWh	#, (1)
1520	TX School of Rural Public Health C	13,264	005275	ELE	107,253	kWh	*, #, (1)
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005294	CHW	1,167,023	mBtu	
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005298	HHW	262,452	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006718	ELE	86,796	kWh	
1525	Nuclear Magnetic Resonance Facility	37,282	006715	CHW	818,177	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006716	HHW	407,208	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006286	ELE	390,641	kWh	*
1530	Interdisciplinary Life Sciences Building	218,540	006288	ELE	221,572	kWh	
1530	Interdisciplinary Life Sciences Building	218,540	006290	CHW	3,474,845	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006294	HHW	966,314	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007205	ELE	122,140	kWh	
1535	Agriculture and Life Sciences Building	168,353	007206	CHW	637,801	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007207	HHW	26,439	mBtu	
1536	AgriLife Services Building	80,907	007571	ELE	45,319	kWh	
1536	AgriLife Services Building	80,907	007572	CHW	227,653	mBtu	
1536	AgriLife Services Building	80,907	007573	HHW	36,231	mBtu	(2)
1537	Wildlife Fisheries & Ecological Sciences Building	78,480	009982	ELE	88,949	kWh	
1537	Wildlife Fisheries & Ecological Sciences Building	78,480	009983	CHW	956,453	mBtu	
1537	Wildlife Fisheries & Ecological Sciences Building	78,480	009984	HHW	315,171	mBtu	

Table I-1 October 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
1538	Agriculture Program Visitors Center	12,923	007209	ELE	13,957	kWh	
1538	Agriculture Program Visitors Center	12,923	007210	CHW	89,925	mBtu	
1538	Agriculture Program Visitors Center	12,923	007211	HHW	9,889	mBtu	
1540	Physical Education Activity Program Building	116,900	007881	ELE	79,884	kWh	
1540	Physical Education Activity Program Building	116,900	007878	CHW	493,905	mBtu	
1540	Physical Education Activity Program Building	116,900	007879	HHW	121,652	mBtu	
1542	Human Clinical Research Building	22,052	009693	ELE	56,961	kWh	
1542	Human Clinical Research Building	22,052	009683	CHW	398,764	mBtu	
1542	Human Clinical Research Building	22,052	009687	HHW	106,419	mBtu	
1544	Cain Garage	498,425	009824	ELE	42,668	kWh	
1550	Olsen Field at Bluebell Park	60,537	007560	ELE	110,605	kWh	
1554	Reed Arena	230,000	007582	ELE	163,288	kWh	*, #
1554	Reed Arena	230,000	006243	ELE	744	kWh	*
1554	Reed Arena	230,000	006244	ELE	88,553	kWh	*
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007576	CHW	2,591,472	mBtu	
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007578	HHW	734,634	mBtu	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007581	ELE	93,596	kWh	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007575	CHW	564,919	mBtu	(2)
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007577	HHW	150,176	mBtu	(2)
1559	West Campus Parking Garage	1,541,457	001453	ELE	163,784	kWh	
1559	West Campus Parking Garage	13,000	004322	CHW	74,592	mBtu	
1559	West Campus Parking Garage	13,000	004327	HHW	10,950	mBtu	(1)
1560	Student Recreation Center	334,642	000363	ELE	374,987	kWh	
1560	Student Recreation Center	334,642	000366	ELE	378,371	kWh	
1560	Student Recreation Center	334,642	002933	CHW	4,196,694	mBtu	
1560	Student Recreation Center	334,642	002937	HHW	1,253,261	mBtu	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009197	ELE	112,768	kWh	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009198	CHW	599,709	mBtu	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009199	HHW	96,631	mBtu	
1591	White Creek Apartment 2	179,467	008528	ELE	122,783	kWh	
1591	White Creek Apartment 2	179,467	008529	CHW	483,888	mBtu	
1591	White Creek Apartment 2	179,467	008533	HHW	64,771	mBtu	
1592	White Creek Apartment 3	179,467	008538	ELE	122,441	kWh	
1592	White Creek Apartment 3	179,467	008539	CHW	560,826	mBtu	
1592	White Creek Apartment 3	179,467	008543	HHW	49,806	mBtu	
1600	Gilchrist TTI Building	67,143	005286	ELE	54,894	kWh	
1600	Gilchrist TTI Building	67,143	002649	CHW	302,507	mBtu	
1600	Gilchrist TTI Building	67,143	002653	HHW	25,492	mBtu	
1601	International Ocean Discovery Building	86,576	006351	ELE	117,364	kWh	(2)
1601	International Ocean Discovery Building	86,576	006382	CHW	227,973	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008144	CHW	51,724	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008145	HHW	19,967	mBtu	(2)
1601	International Ocean Discovery Building	86,576	009829	HHW	48,209	mBtu	(2)
1604	Offshore Technology Research Center	40,014	006659	ELE	92,844	kWh	
1604	Offshore Technology Research Center	40,014	006660	ELE	0	kWh	(2)
1604	Offshore Technology Research Center	40,014	008142	CHW	475,322	mBtu	*
1604	Offshore Technology Research Center	40,014	008143	HHW	150,185	mBtu	*
1606	George Bush Presidential Library & Museum	121,678	000244	ELE	107,332	kWh	
1606	George Bush Presidential Library & Museum	121,678	002808	CHW	1,009,870	mBtu	
1606	George Bush Presidential Library & Museum	121,678	002812	HHW	328,026	mBtu	(1)
1607	Allen Building	133,327	000243	ELE	104,206	kWh	
1607	Allen Building	133,327	002800	CHW	518,727	mBtu	
1607	Allen Building	133,327	002804	HHW	22,584	mBtu	
1608	Annenberg Presidential Conference Center	65,688	000245	ELE	78,660	kWh	
1608	Annenberg Presidential Conference Center	65,688	002761	CHW	676,389	mBtu	
1608	Annenberg Presidential Conference Center	65,688	002765	HHW	232,867	mBtu	
1609	TTI Headquarters	66,707	006495	ELE	50,142	kWh	
1609	TTI Headquarters	66,707	006496	CHW	277,794	mBtu	
1609	TTI Headquarters	66,707	006497	HHW	28,391	mBtu	
1611	Engineering Research Building	68,807	008462	ELE	186,004	kWh	
1611	Engineering Research Building	68,807	008463	CHW	1,756,051	mBtu	
1611	Engineering Research Building	68,807	008467	HHW	575,248	mBtu	
1800	General Services Complex	203,369	005441	ELE	183,676	kWh	
1800	General Services Complex	203,369	005468	CHW	920,078	mBtu	
1800	General Services Complex	203,369	005472	HHW	56,698	mBtu	
1809	New TVMDL	90,000	009652	ELE	123,235	kWh	#, (1)
1809	New TVMDL	90,000	009653	ELE	93,408	mBtu	*, #, (1)
1809	New TVMDL	90,000	009647	CHW	1,707,831	mBtu	
1810	Office of the State Chemist Building	31,735	009073	ELE	64,506	kWh	
1810	Office of the State Chemist Building	31,735	005460	CHW	364,621	mBtu	
1810	Office of the State Chemist Building	31,735	005464	HHW	68,751	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006705	ELE	232,827	kWh	
1811	Vet Med Research Bldg Addition	52,993	006706	CHW	1,132,652	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006707	HHW	404,054	mBtu	



Table I-1 October 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area ( ft <sup>2</sup> )	MeterID	Type	Monthly Consumption	Units	Comments
1812-1813	Veterinary Medicine Building 1 and 2	254,952	009404	ELE	187,856	kWh	
1813	Veterinary Medicine Building 2	116,492	009418	ELE	48,923	kWh	
1814	Veterinary Medicine Building 3	135,470	009405	ELE	273,903	kWh	
1812-1813-1814	Veterinary Medicine Building 1, 2 and 3	390,422	009676	CHW	3,249,926	mBtu	
1812-1813-1814	Veterinary Medicine Building 1, 2 and 3	390,422	009410	HHW	710,406	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005548	ELE	86,052	kWh	
1900	Texas Institute for Genomic Medicine	34,120	005545	CHW	1,272,573	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005546	HHW	377,339	mBtu	
1904	Texas A&M Institute for Preclinical Studies A	113,559	006364	ELE	160,603	kWh	(2)
1904	Texas A&M Institute for Preclinical Studies A	113,559	006365	CHW	1,197,423	mBtu	(2)
1904	Texas A&M Institute for Preclinical Studies A	113,559	006366	HHW	337,108	mBtu	(2)
1910	National Center for Therapeutics Manufacturing	149,924	007517	ELE	199,461	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007518	ELE	187,527	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007519	CHW	3,704,151	mBtu	
1910	National Center for Therapeutics Manufacturing	149,924	007520	HHW	1,072,997	mBtu	
1911	Multi-Species Research Building	21,000	009138	ELE	27,853	kWh	
1911	Multi-Species Research Building	21,000	009129	CHW	400,142	mBtu	(1)
1911	Multi-Species Research Building	21,000	009133	HHW	175,735	mBtu	(1)
10226	NCTM Manufacturing Building	113,397	007648	CHW	3,161,190	mBtu	
10226	NCTM Manufacturing Building	113,397	007649	HHW	787,230	mBtu	
10226	NCTM Manufacturing Building	113,397	008133	HHW	233,463	mBtu	

1 mBtu = 1 000 Btu

NA: Not available  
Monthly consumption in blue: modified values

\* : Missing data

# : Questionable data

(1): Consumption estimated and documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 2*

(2): Observation(s) documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 3*

(3): Missing data or changed consumption levels due to construction

## **II. Data Analysis: Energy Use Estimation and Observation**

## II-1 Meters with Missing Energy Consumption Data

During the month of October 2017, 34 meters in 19 buildings and complexes have missing daily data. The missing data have been filled in using consumption models based on the past data if available or using linear interpolation or some sort of average, and the monthly consumption has been estimated with the filled-in daily consumption. Table II-1 is the list of meters with missing data.

Table II-1 Meters with missing data during October 2017

Buidling No.	Building Name	MeterID	Type	Unit	Original Monthly Consumption	Estimated Monthly Consumption	# of Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0325-0385	CE TTI Office & Lab Building	009123	CHW	mBtu	(68,641,460)	878,675	11																M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0325-0385	CE TTI Office & Lab Building	009124	CHW	mBtu	(16,637,514)	172,300	11																M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
386	Jack E. Brown Chemical Engineering Building	002250	CHW	mBtu	(244,503,928)	3,136,543	23																															
386	Jack E. Brown Chemical Engineering Building	002254	HHW	mBtu	(55,345,617)	514,442	23																															
0440-0441	Commons Krueger	009833	ELE	kWh	193,043	*	1																															
	456 Military Sciences Building	006939	CHW	mBtu	NA	471,014	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
	456 Military Sciences Building	005943	HHW	NA	NA	202,328	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
	468 Evans Library	000319	ELE	kWh	104,692	*	31	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
	481 Heaton Hall	005712	ELE	kWh	NA	NA	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
499	Engineering Innovation Center	002672	CHW	mBtu	NA	87,730	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
499	Engineering Innovation Center	002683	HHW	mBtu	NA	43,256	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
518	Zachry Engineering Education Complex	009874	ELE	kWh	NA	137,105	31	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
518	Zachry Engineering Education Complex	009875	ELE	kWh	NA	91,786	31	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
518	Zachry Engineering Education Complex	009964	CHW	mBtu	2,337,753	*	13																															
518	Zachry Engineering Education Complex	009965	HHW	mBtu	224,611	*	13																															
524	Blocker building	001545	ELE	kWh	199,576	*	1																															
971	Dollar Data Center	010002	ELE	kWh	NA	133,174	31	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
971	Dollar Data Center	010003	ELE	kWh	NA	31,164	31	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
1042	Forest Science Laboratory Building	006036	ELE	kWh	27,217	*	3																															
1454	University Apartments - The Gardens F	006980	ELE	kWh	21,212	21,212	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1455	University Apartments - The Gardens G	006882	ELE	kWh	19,110	19,110	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1501	Kieberg Center	007449	ELE	kWh	225,296	287,291	7																															
1501	Kieberg Center	002624	CHW	mBtu	1,259,119	1,386,472	7																															
1501	Kieberg Center	002628	HHW	mBtu	383,415	**	7																															
1504	Reynolds Medical Sciences Building	003989	CHW	mBtu	2,058,084	2,169,423	3																															
1504	Reynolds Medical Sciences Building	003993	HHW	mBtu	512,906	578,044	3																															
1520	TX School of Rural Public Health C	005275	ELE	kWh	56,118	*	1																															
1530	Interdisciplinary Life Sciences Building	006286	ELE	kWh	390,641	*	1																															
1534	Reed Arena	007582	ELE	kWh	(13,153,744)	163,288	25																															
1554	Reed Arena	006243	ELE	kWh	NA	744	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
1554	Reed Arena	006244	ELE	kWh	NA	88,553	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1604	Offshore Technology Research Center	008142	CHW	mBtu	475,322	*	3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
1604	Offshore Technology Research Center	008143	HHW	mBtu	150,185	*	3	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
1809	New TVMID	009653	ELE	kWh	13,165,198	**	27																															

## II-2 Meters with Estimated Consumption for Problematic Data

During the month of October 2017, 43 meters in 32 buildings have estimated daily consumption because the recorded consumption is found to be problematic or questionable. For each of these meters, alternative consumption has been estimated using the best possible method. Table II-2 lists these meters with indications of the days with estimated data. Detailed descriptions for individual cases follow.

Table II-2 Meters with problematic data during October 2017

Building No.	Building Name /MeterID(s)	Type	Unit	Original Monthly Consumption	Estimated Monthly Consumption	# of days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
0292	Eppright Residence Hall	002266	HHW	mBtu	192,772	157,787	10	M	M	M	M	M	M	M	M	M	M																						
0293	Appelt Residence Hall	002062	CHW	mBtu	1,056,818	781,314	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
		002066	HHW	mBtu	503,539	318,426	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
0383	Koldus Building	002874	HHW	mBtu	14,638	163,730	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
0387	Richardson Petroleum Engineering Building	005809	HHW	mBtu	1,301,872	240,190	11							M	M	M	M	M	M	M	M	M	M	M															
0394	Underwood Residence Hall	002121	HHW	mBtu	80,393	93,772	3																													M	M	M	
0404	Gainer Hall Dorm 5	009360	HHW	mBtu	974,528	74,736	9																														M	M	M
0415	Davis-Gary Residence Hall	002543	HHW	mBtu	176,286	201,844	4							M	M																						M	M	
0430	Schumacher Residence Hall	002030	HHW	mBtu	290,159	106,212	4							M	M														M	M									
0435	Harrington Education Center Office Tower	002796	HHW	mBtu	145,836	386,294	21						M	M	M	M	M	M	M				M	M	M						M	M	M	M	M	M	M	M	
0441	Krueger Residence Hall	002504	CHW	mBtu	37,642,539	765,202	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		002500	HHW	mBtu	17,195,857	289,003	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0442	Dunn Residence Hall	002515	HHW	mBtu	286,895	329,803	5															M	M	M	M														
0444	Peterson Building	002922	CHW	mBtu	1,312,890	1,096,531	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0446	Rudder Theatre Complex	002977	ELE	kWh	52,089	103,255	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		002980	ELE	kWh	31,663	33,121	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
		004297	CHW	mBtu	667,325	1,718,530	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		004309	HHW	mBtu	210,844	969,785	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0447	Aston Residence Hall	002470	HHW	mBtu	409,010	507,862	8															M	M	M	M										M	M	M		
0448	Adams Band Hall	002555	CHW	mBtu	391,428	502,152	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		002566	HHW	mBtu	159,472	301,394	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0467	Biological Sciences Building - East	003851	CHW	mBtu	627,834	787,174	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0468	Evans Library	003712	HHW	mBtu	591,665	174,852	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0476	Francis Hall	008033	CHW	mBtu	279,183	302,504	2							M	M																								
0477	Anthropology Building	003664	CHW	mBtu	479,045	356,248	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		003668	HHW	mBtu	131,435	74,084	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0478	Scoates Hall	007969	HHW	mBtu	126,250	89,713	21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M													
0506	Nagle Hall	003619	CHW	mBtu	171,561	192,321	9	M	M	M	M	M	M	M	M																								
0520	Beutel Health Center	003933	CHW	mBtu	524,315	452,978	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		003944	HHW	mBtu	28,981	59,647	26	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
0549	Haas Residence Hall	002994	HHW	mBtu	438,528	635,313	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
0815	Entomology Research Lab	005799	ELE	kWh	23,887	31,552	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		006043	CHW	mBtu	101,001	152,895	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1501	Kleberg Center	002628	HHW	mBtu	**	621,050	3	M	M	M																													
1512	Southern Crop Improvement Greenhouse	005931	ELE	kWh	122,924	96,668	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1519	TX School of Rural Public Health B	005274	ELE	kWh	107,253	56,118	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1520	TX School of Rural Public Health C	005275	ELE	kWh	56,118	107,253	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1559	West Campus Parking Garage	004327	HHW	mBtu	12,606	10,950	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
1606	George Bush Presidential Library & Museum	002812	HHW	mBtu	417,243	328,026	27	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M			
1809	New TVMDL	009652	ELE	kWh	123,235,337	123,235	31	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F		
		009653	ELE	kWh	**	93,408	5	F	F	F	F	F																											
1911	Multi-Species Research Building	009129	CHW	mBtu	417,959	400,142	7																													M	M	M	
		009133	HHW	mBtu	242,261	175,735	31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		

Notes: The colored cells means the consumption for the day appears to be problematic. The letter in the colored cell indicates the method for estimation. M: model, F: multiplication factor, L: linear interpolation, A: average, and C: correction of the reset cumulative reading

## Eppright Residence Hall (TAMU Bldg #292)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002266	10	10/1/2017 – 10/10/2017	Model

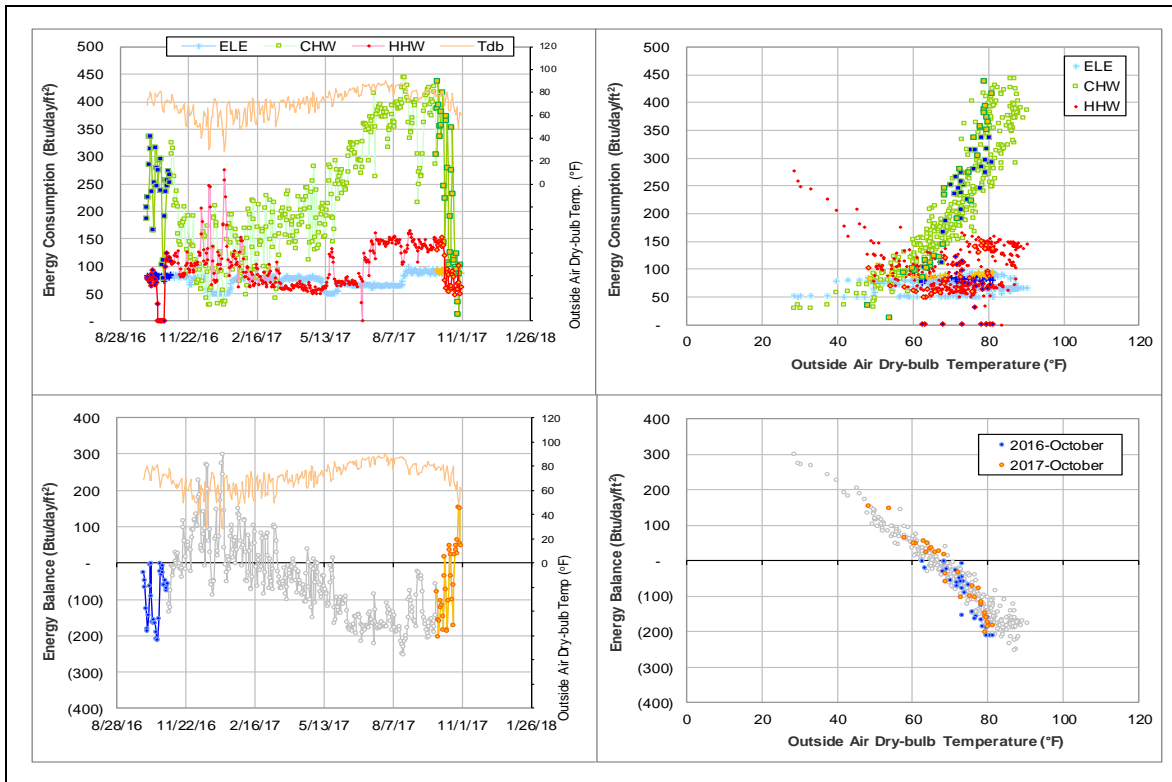
### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is higher than the level during the past year.	7/15/2017– 10/10/2017

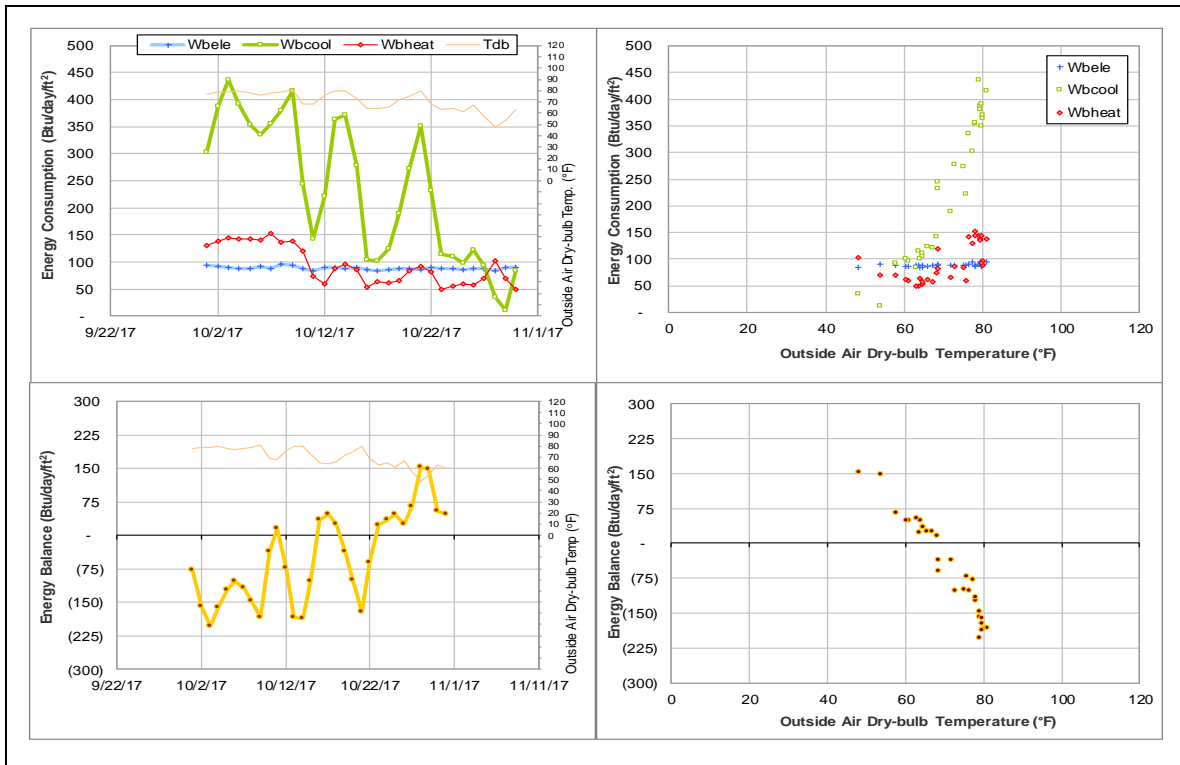
### Quantitative descriptions and comments

The HHW consumption was 60 – 100 Btu/day/ft<sup>2</sup> higher than the previous year during 7/15/2017 - 10/10/2017. The consumption before 10/10/2017 was estimated by a model.

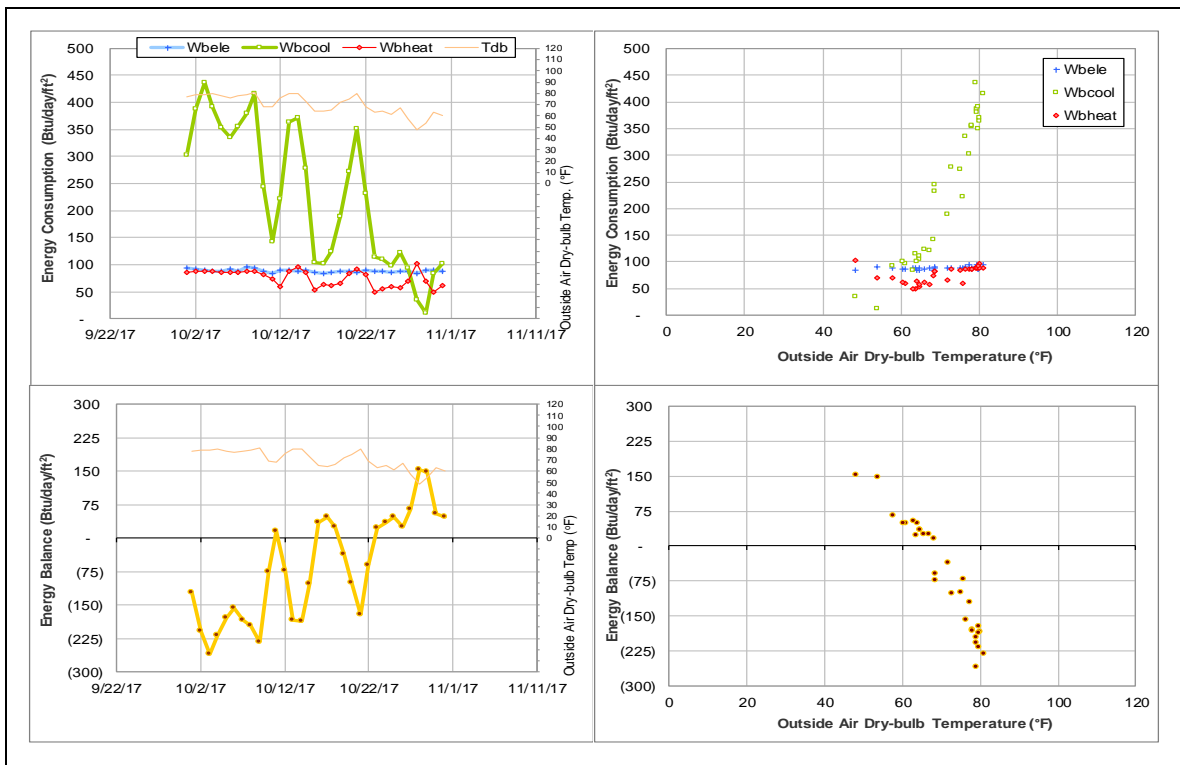
### Explanatory Figure: 13 months energy balance plot with original data.



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## Appelt Residence Hall (TAMU Bldg #293)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002062	31	10/1/2017 – 10/31/2017	Model
HHW	002066	31	10/1/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	10/1/2017– Ongoing
HHW	The consumption level is higher than the level during the past year.	10/1/2017– Ongoing

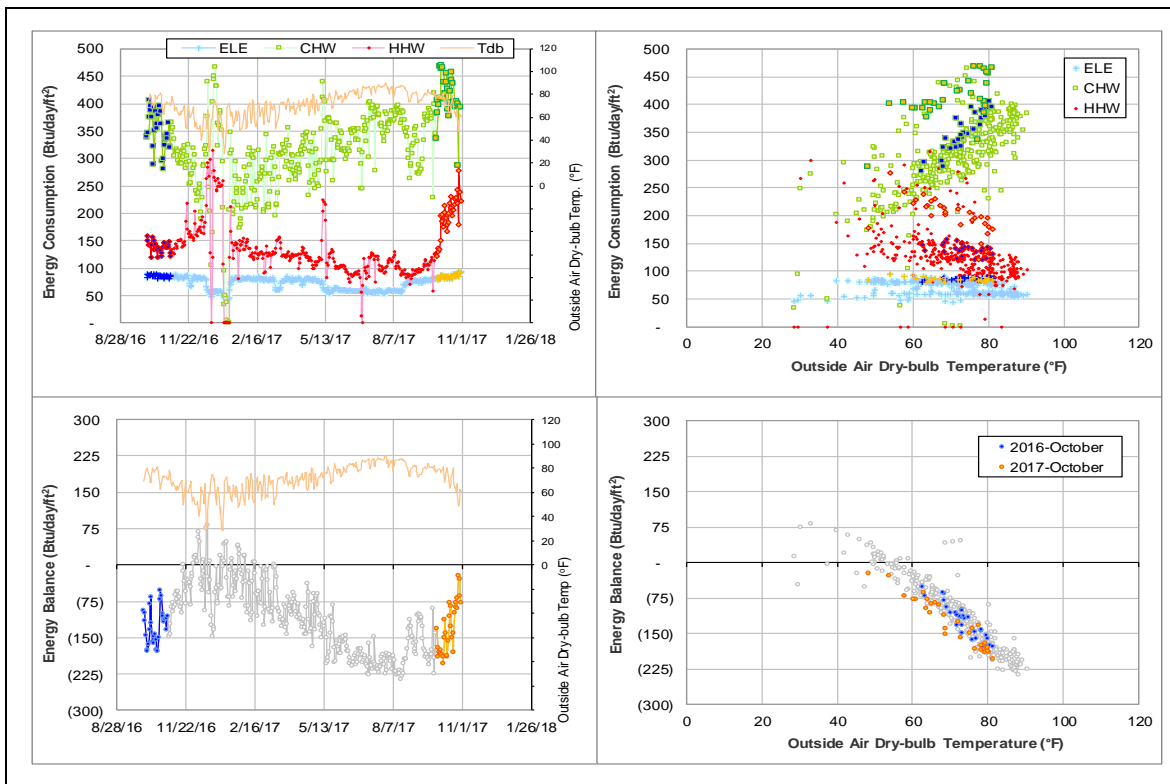
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002062	10/1/2017– Ongoing	Flow rate	Increased
HHW	002066	10/1/2017– Ongoing	Flow rate	Increased

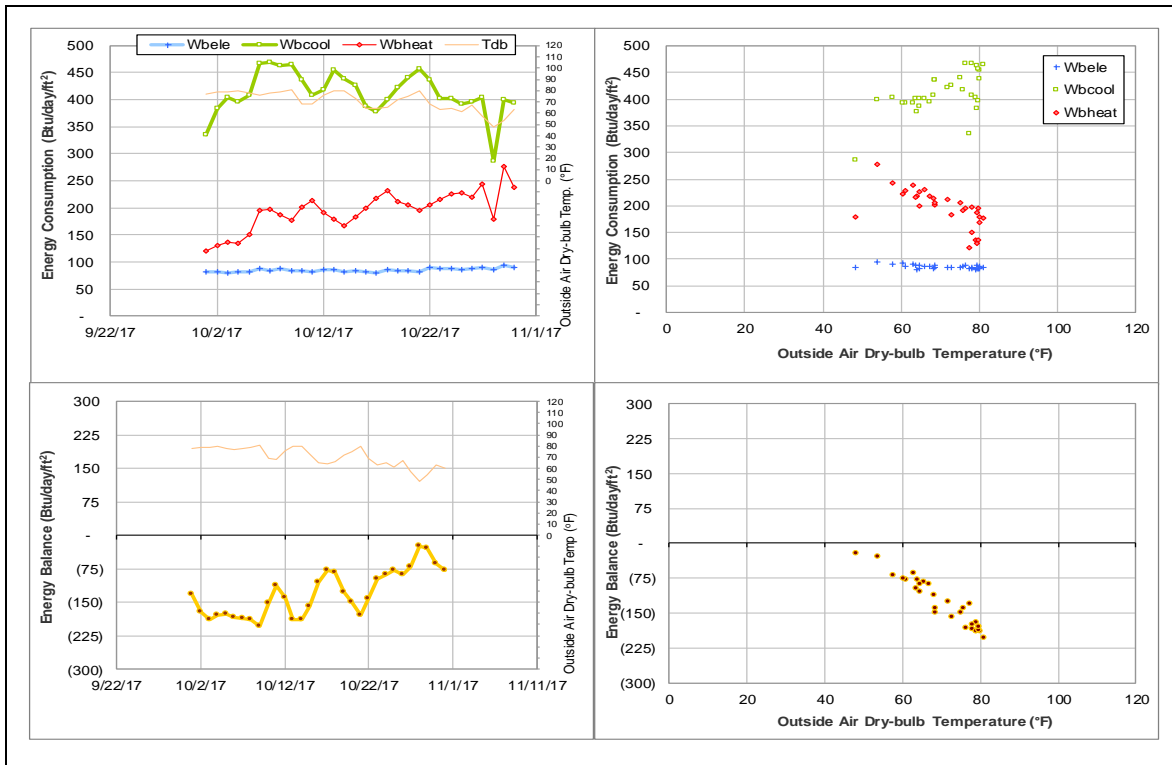
### Quantitative descriptions and comments

Both CHW and HHW consumption increased by 50 – 150 Btu/day/ft<sup>2</sup> since 10/1/2017 due to an increase in flow rate. The consumption for whole month was estimated by a model.

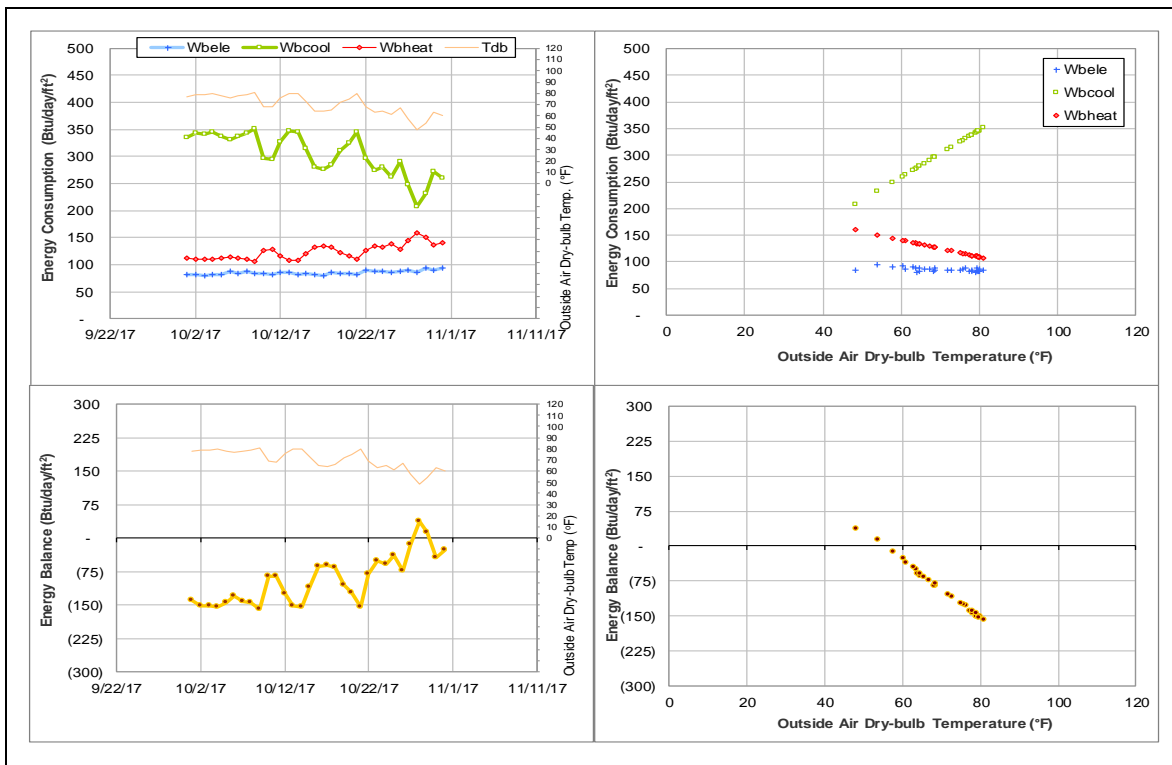
### Explanatory Figure: 13 months energy balance plot with original data.



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*





## Koldus Building (TAMU Bldg #383)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002874	30	10/1/2017 – 10/30/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption was recorded as zero.	3/12/2017 – 10/30/2017

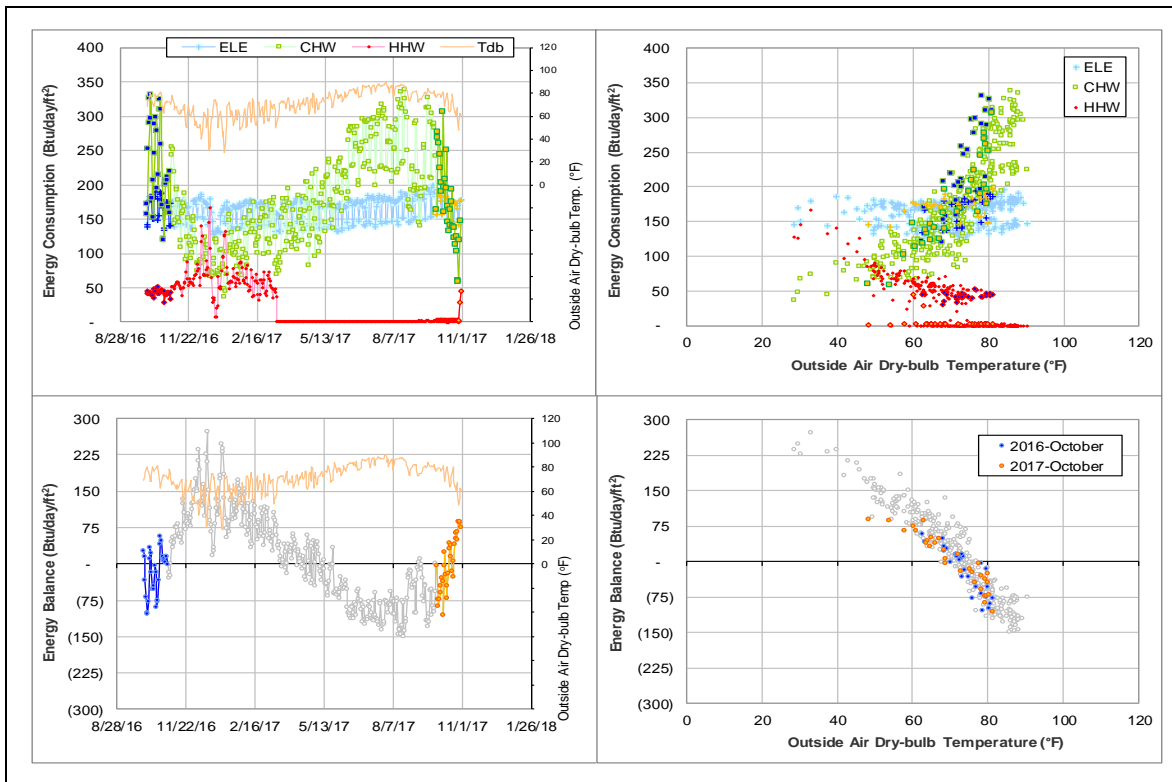
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002874	3/12/2017 - 10/30/2017	Flow rate	Near zero

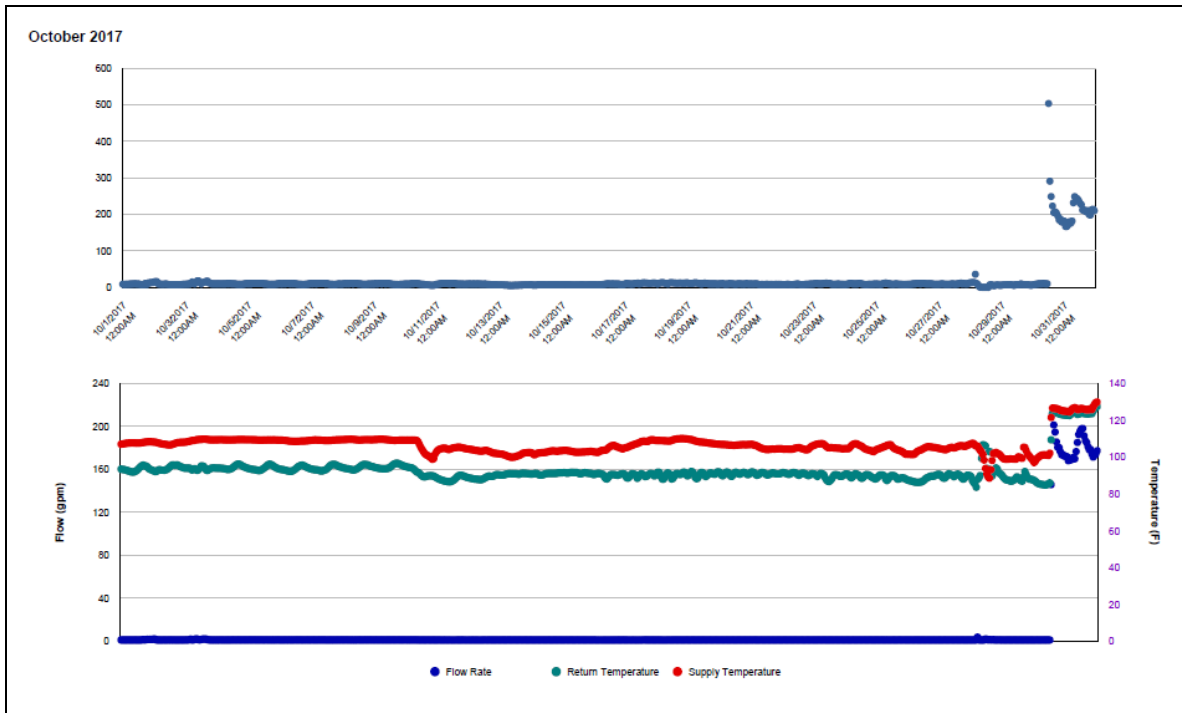
### Quantitative descriptions and comments

The HHW consumption dropped to zero since 3/12/2017 due to a flow rate near zero. The consumption increased back at the end of this month. The zero consumption was estimated by a model.

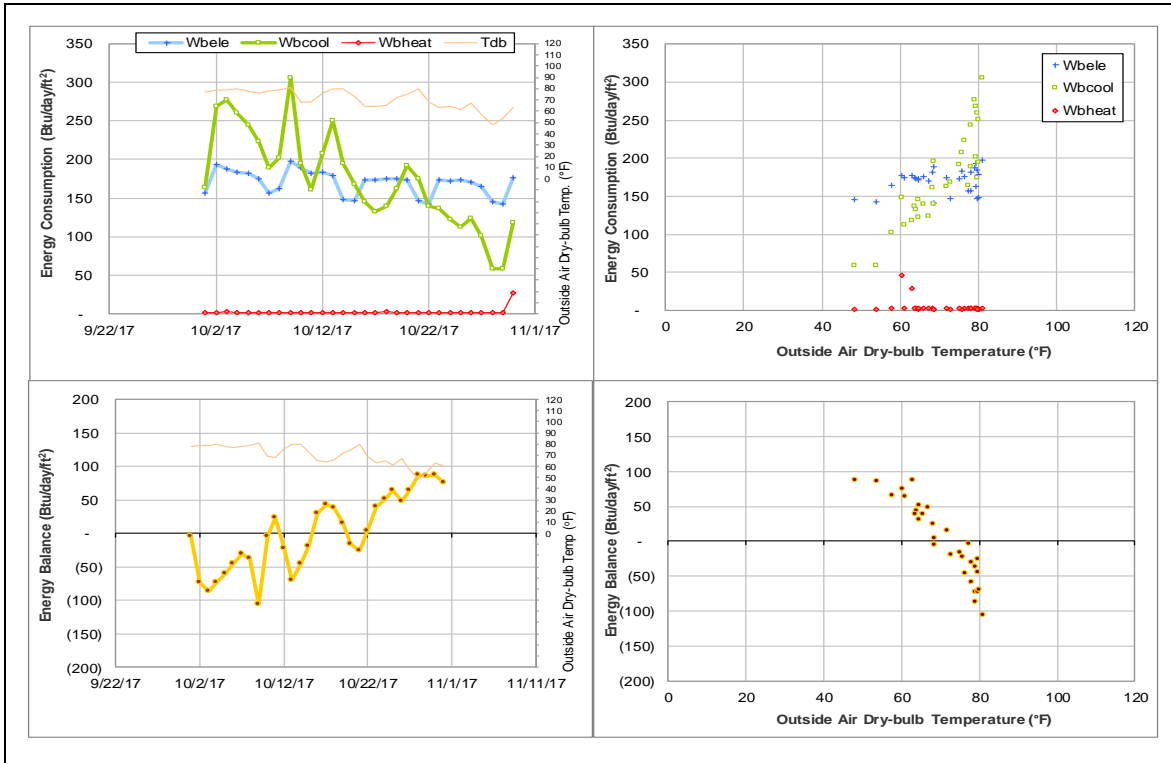
### Explanatory Figure: 13 months energy balance plot with original data.



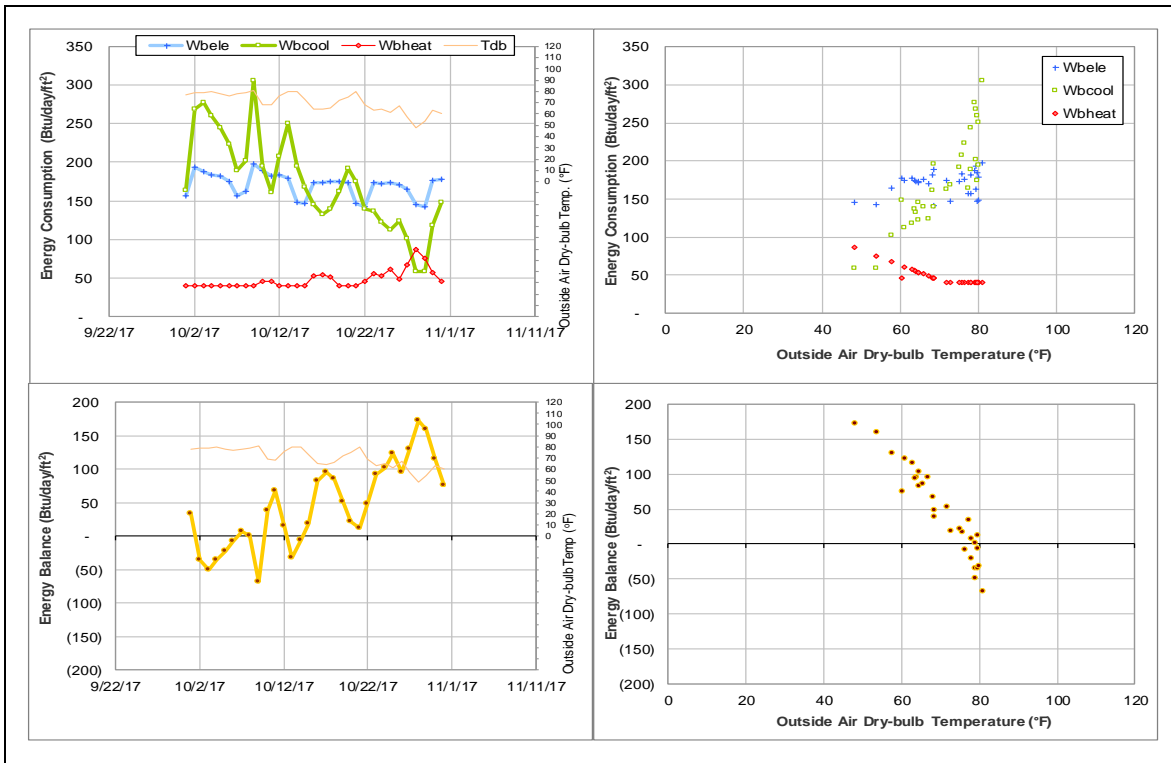
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## Richardson Petroleum Engineering Building (TAMU Bldg #387)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	005809	11	10/8/2017 – 10/18/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption increased and metered value appeared to be faulty.	10/8/2017 – 10/18/2017

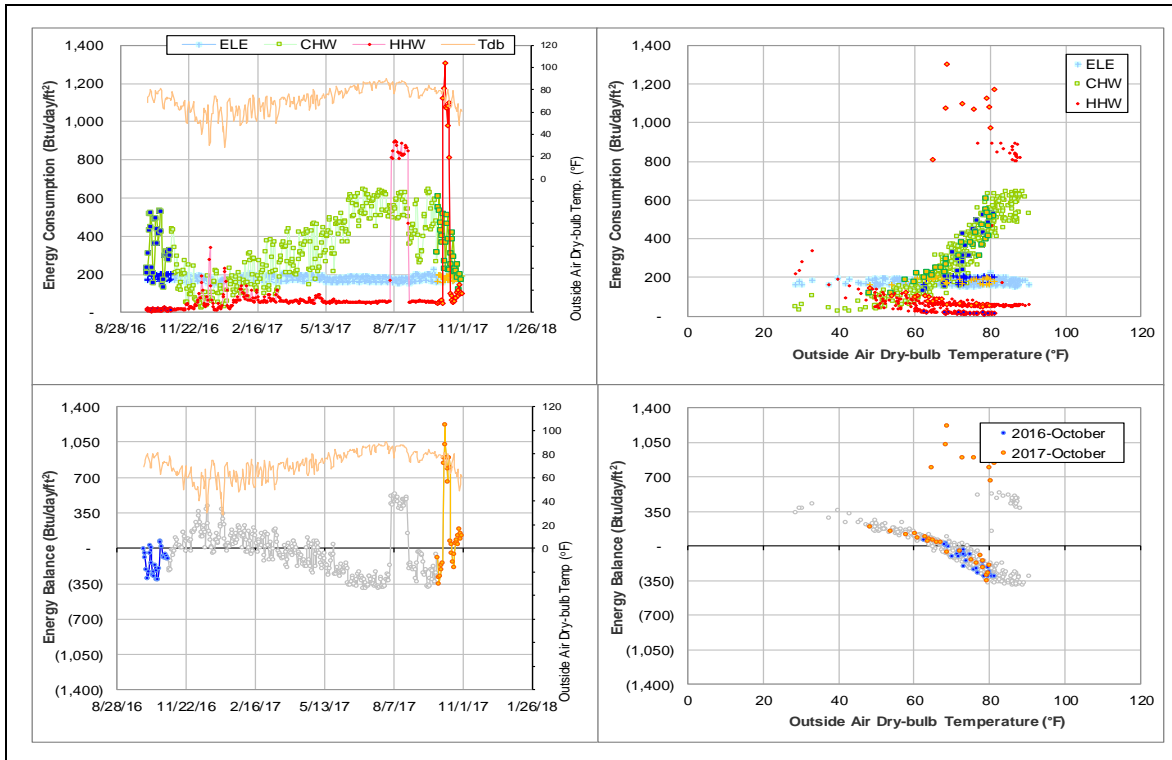
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	005809	10/8/2017 – 10/18/2017	Flow rate	Increased and maintained at a constant value

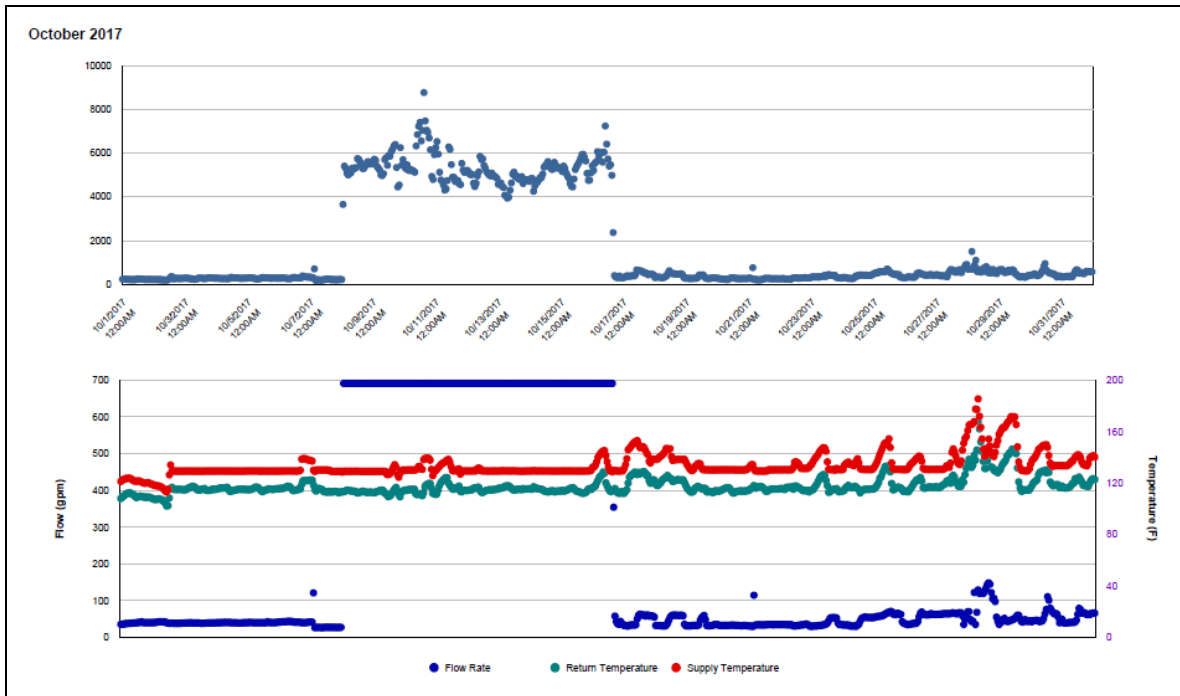
### Quantitative descriptions and comments

The HHW increased to extremely high level, ~ 800 – 1300 Btu/day/ft<sup>2</sup> during 10/8/2017 – 10/18/2017. Flow rate increased and maintained at a constant value during this period. The consumption for these days was estimated by a model.

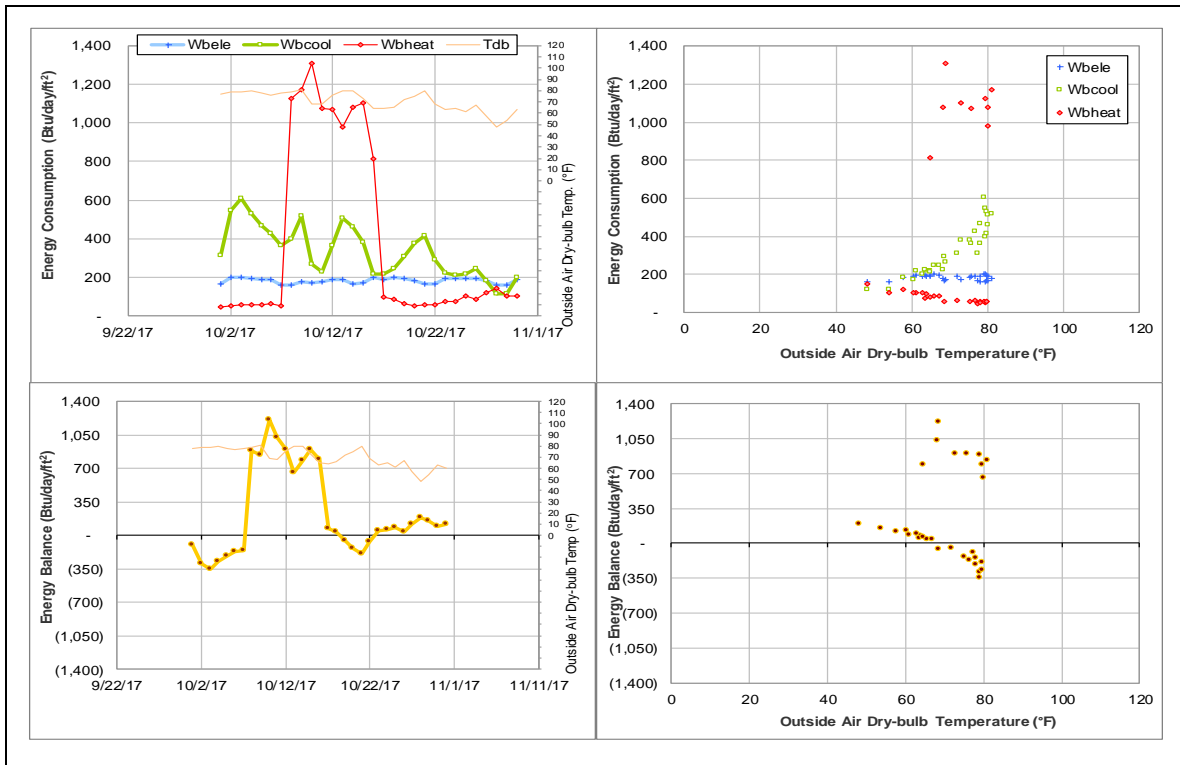
### Explanatory Figure: 13 months energy balance plot with original data.



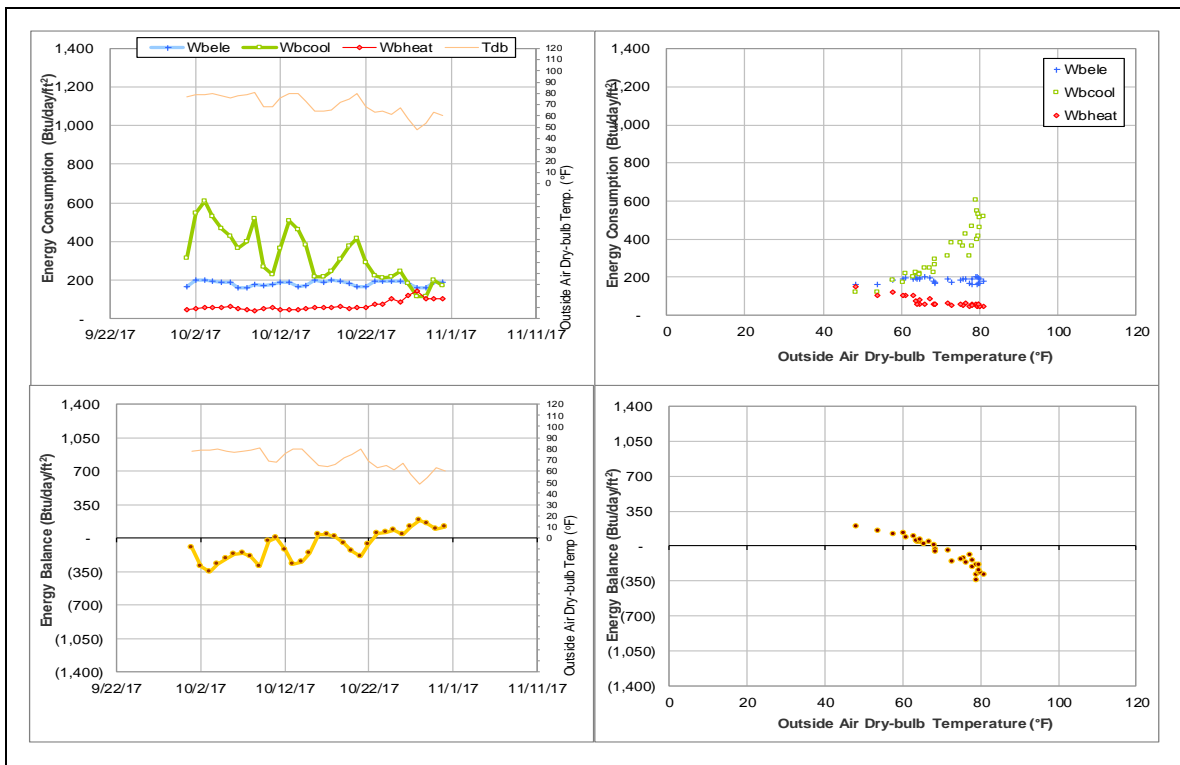
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## Underwood Residence Hall (TAMU Bldg #394)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002121	3	10/28/2017 – 10/30/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption decreased for a short period.	10/28/2017 – 10/30/2017

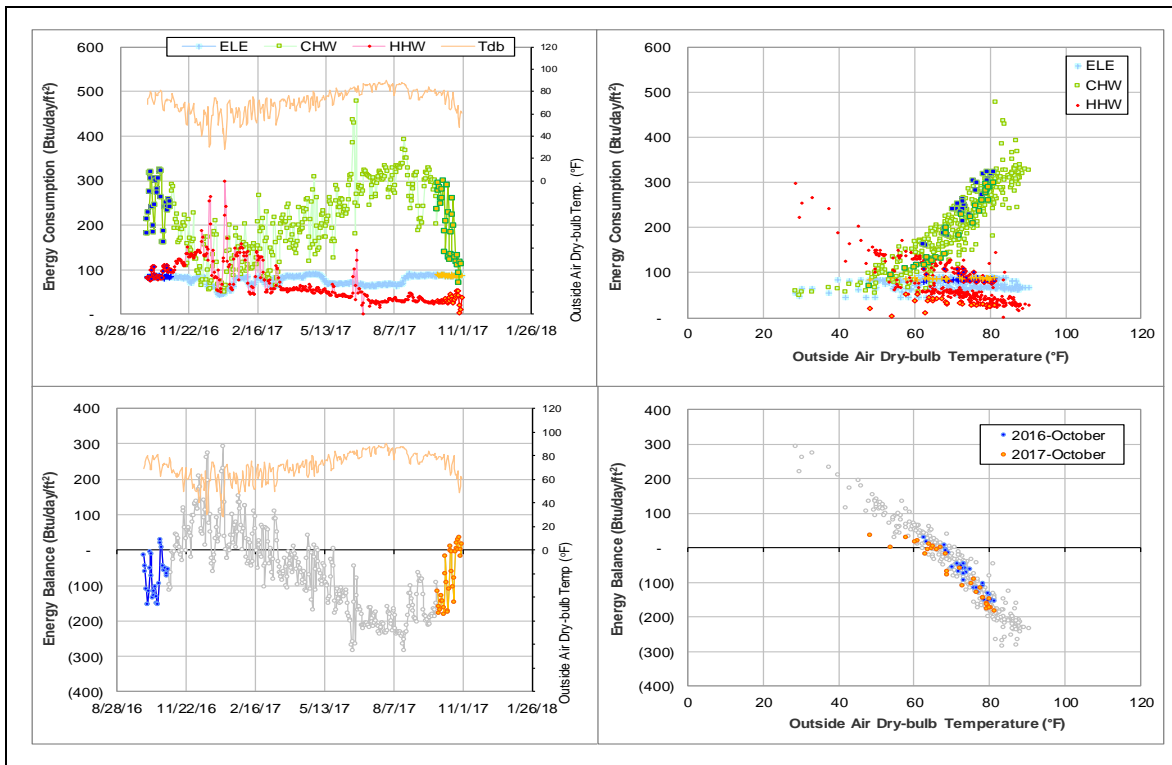
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002121	10/28/2017 – 10/30/2017	Flow rate	Decreased

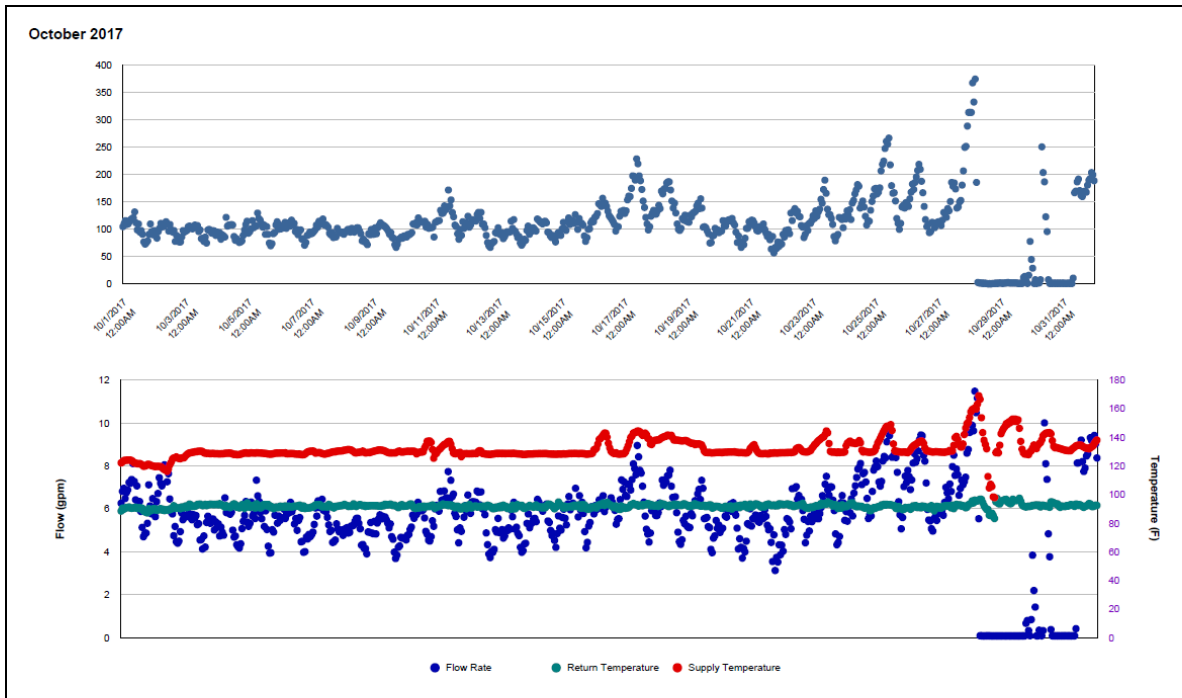
### Quantitative descriptions and comments

The HHW decreased for a short period during 10/28/2017 – 10/30/2017 due to a decrease in flow rate. The consumption for these days was estimated by a model.

### Explanatory Figure: 13 months energy balance plot with original data.

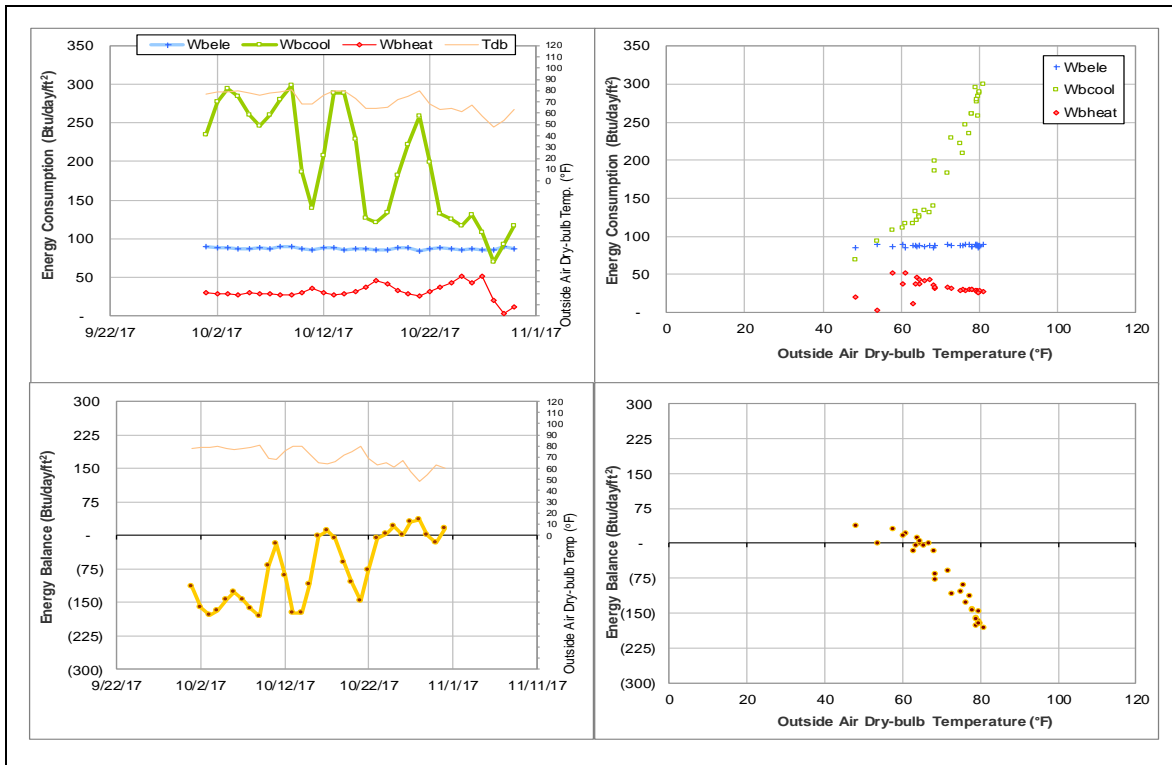


*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*

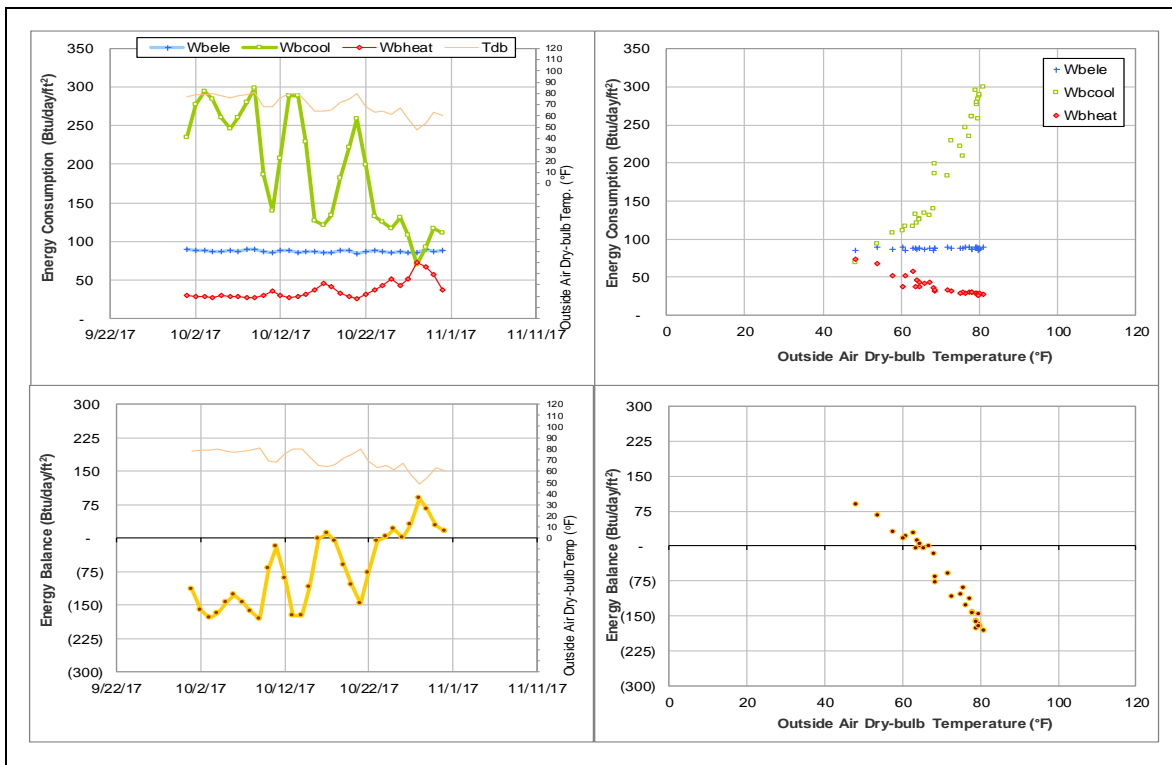




*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## Gainer Hall Dorm 5 (TAMU Bldg #404)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	009360	9	10/23/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption increased and metered value appeared to be faulty.	10/23/2017 – Ongoing

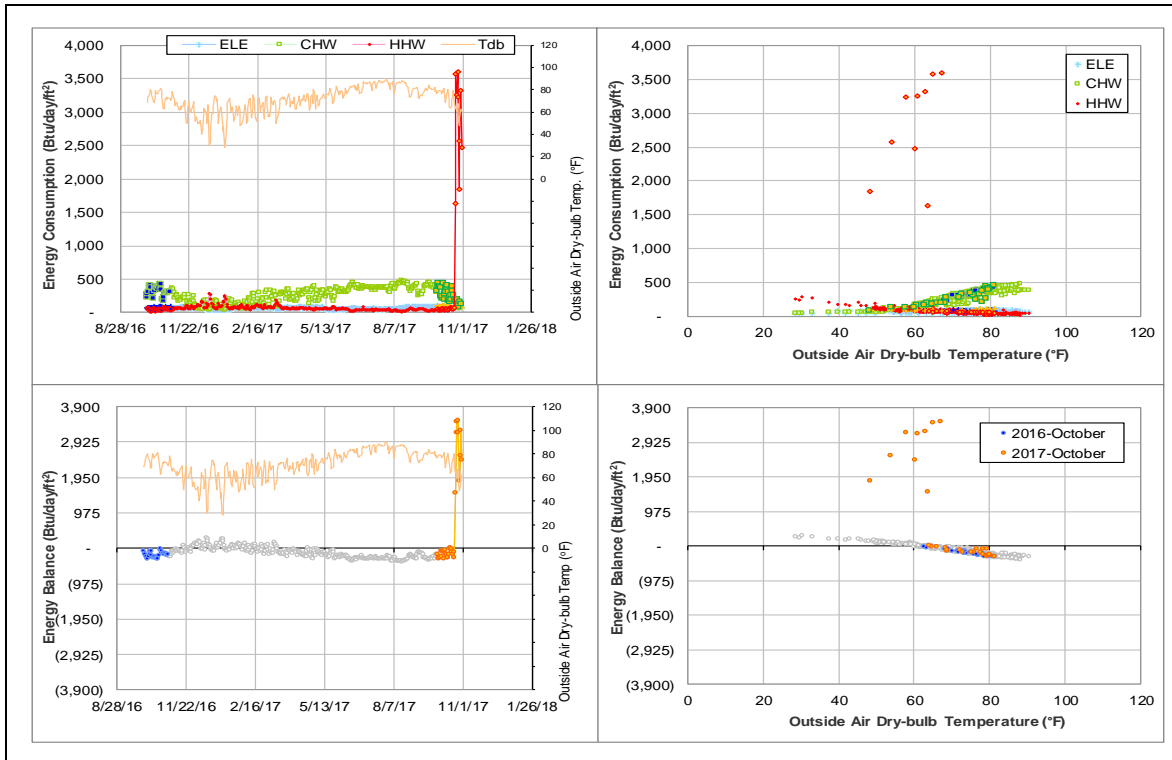
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	009360	10/23/2017 – Ongoing	Flow rate	Increased and maintained at a constant value

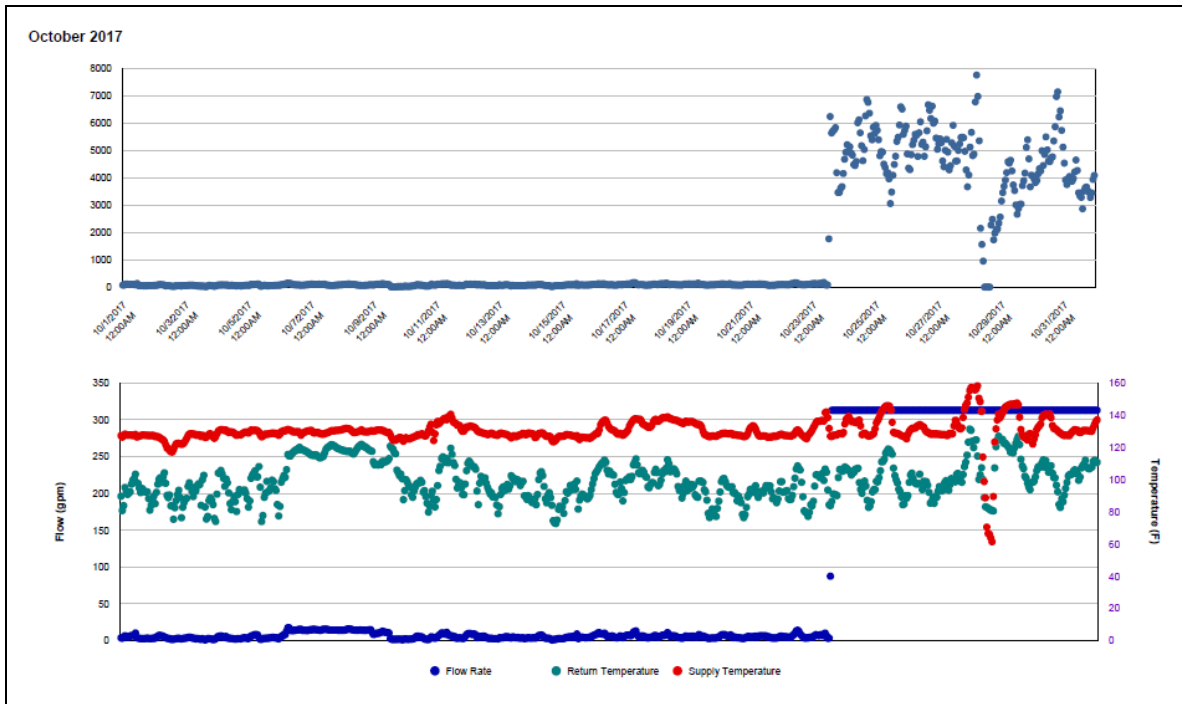
### Quantitative descriptions and comments

The HHW increased to extremely high level, ~ 1500 – 3600 Btu/day/ft<sup>2</sup> since 10/23/2017. Flow rate increased and maintained at a constant value during this period. The consumption was estimated by a model.

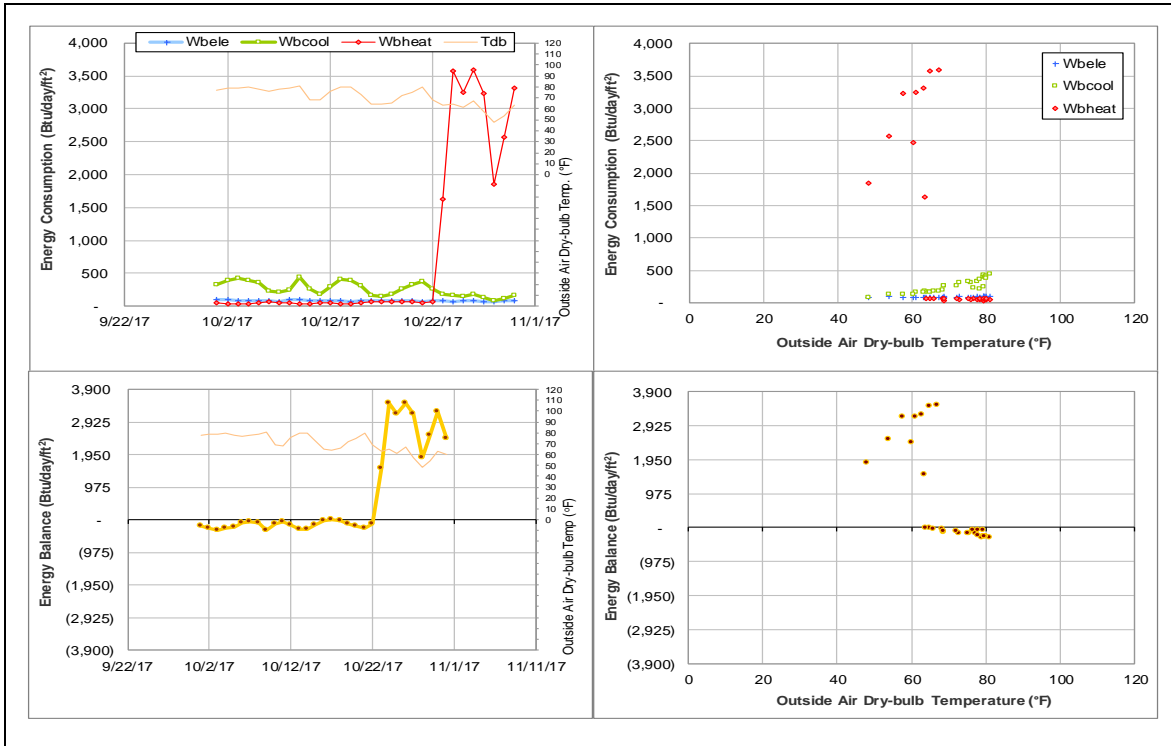
### Explanatory Figure: 13 months energy balance plot with original data.



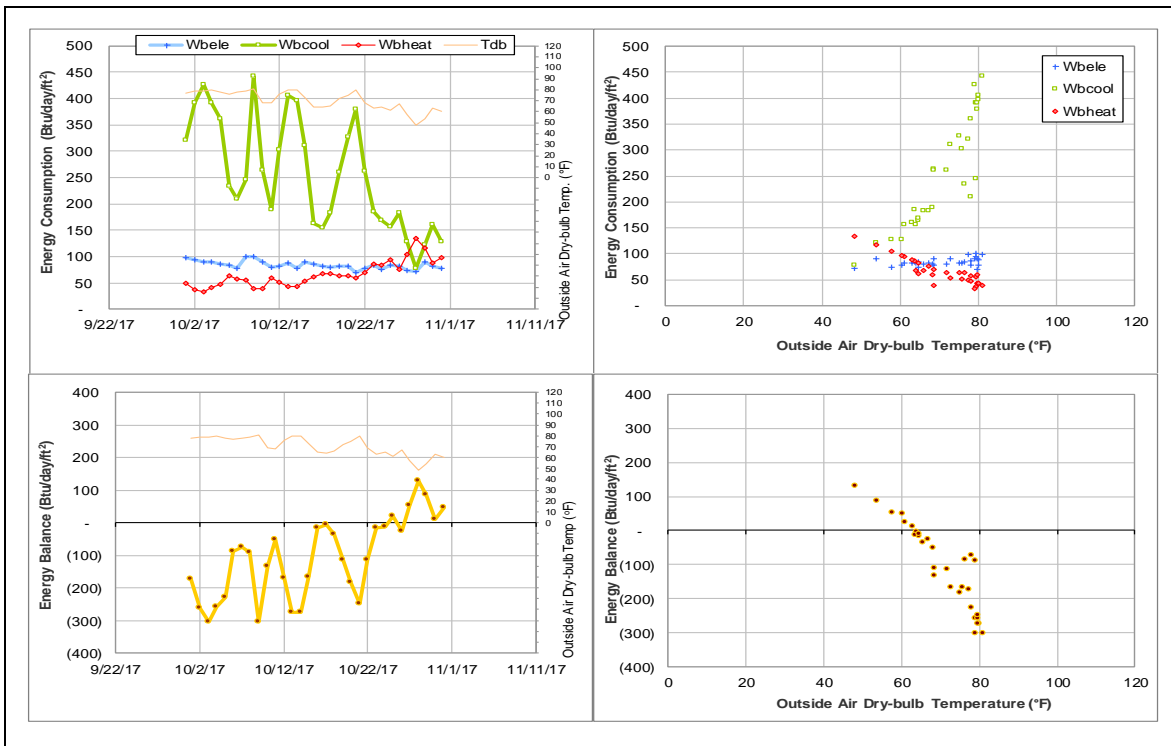
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



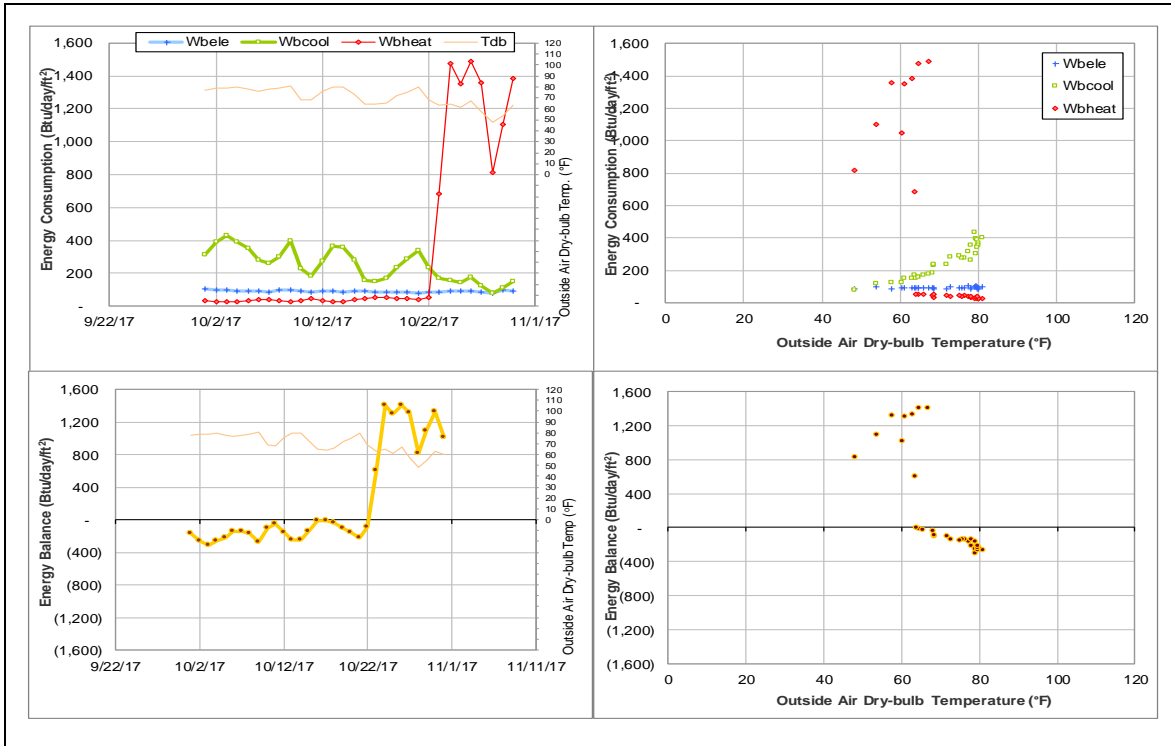
**Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any. (Just for #404 Gainer Hall)**



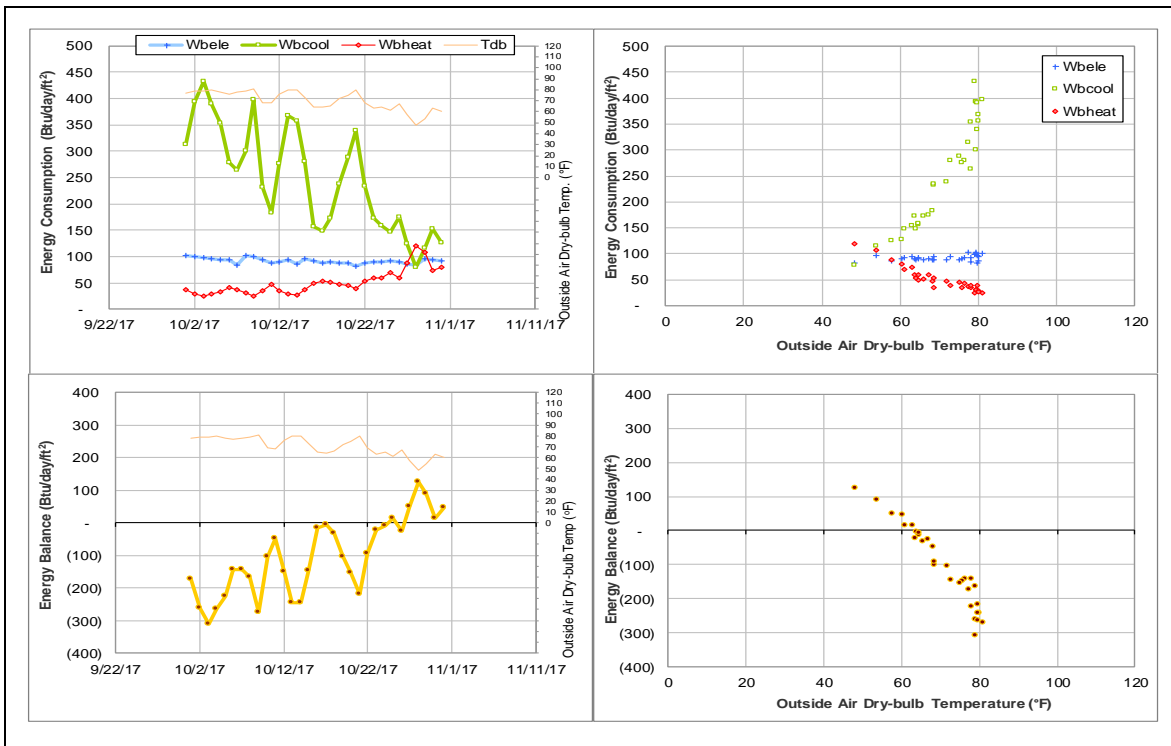
**Energy balance plot using the estimated data for the month of analysis. (Just for #404 Gainer Hall)**



**Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any. (for total of 404-406-1403 Gainer Hall)**



**Energy balance plot using the estimated data for the month of analysis. (for total of 404-406-1403 Gainer Hall)**



## Davis-Gary Residence Hall (TAMU Bldg #415)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002543	4	10/7/2017 – 10/8/2017, 10/28/2017 – 10/30/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption decreased for a short period.	10/7/2017 – 10/8/2017, 10/28/2017 – 10/30/2017

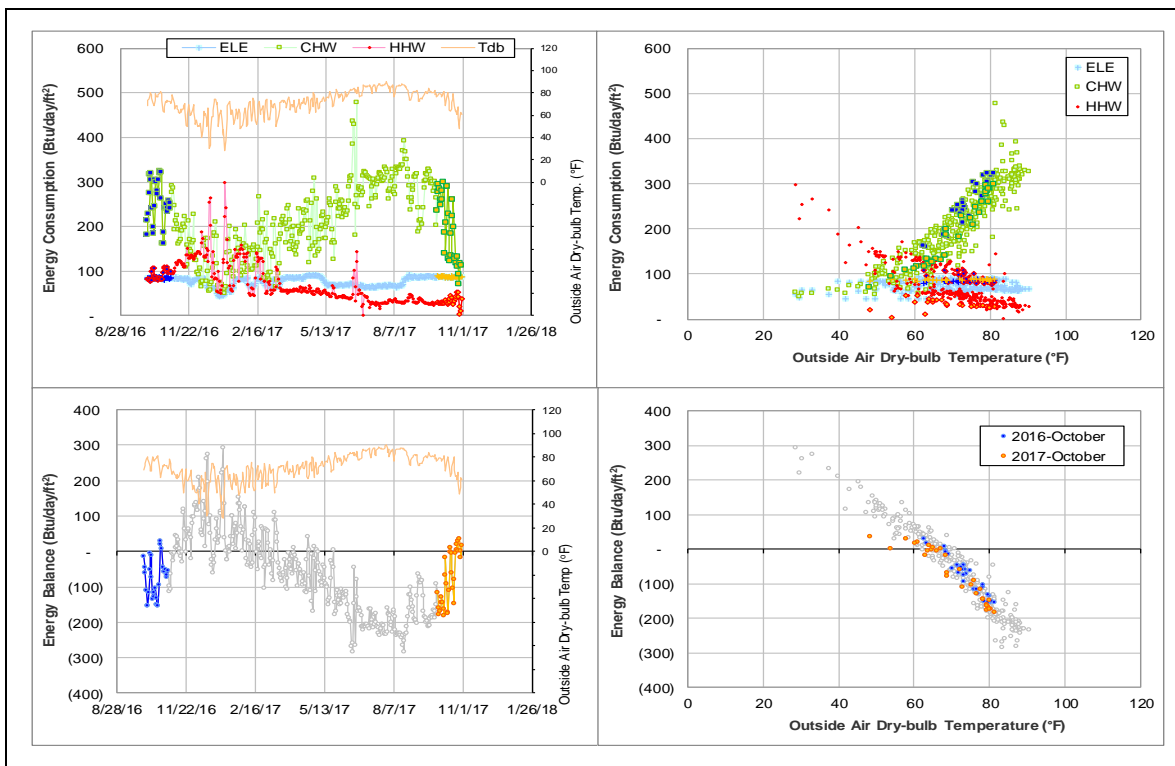
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002121	10/7/2017 – 10/8/2017, 10/28/2017 – 10/30/2017	Flow rate	Decreased

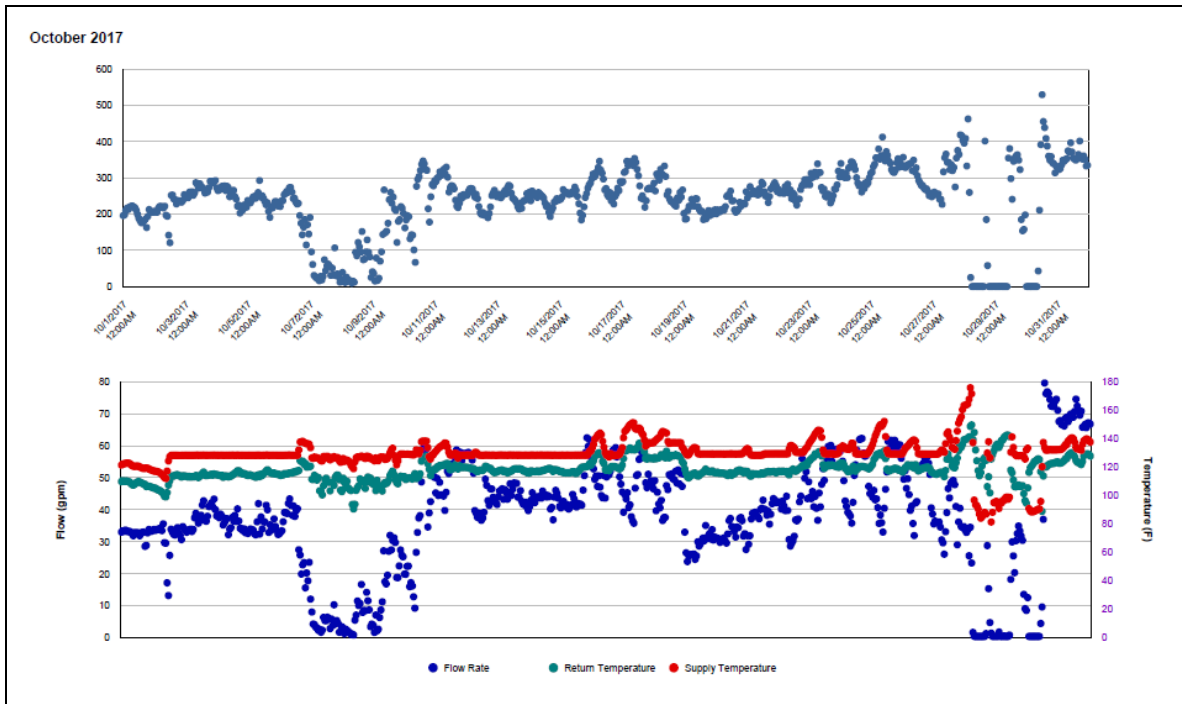
### Quantitative descriptions and comments

The HHW decreased for a short period during 10/7/2017 – 10/8/2017 and 10/28/2017 – 10/30/2017 due to a decrease in flow rate. The consumption for these days was estimated by a model.

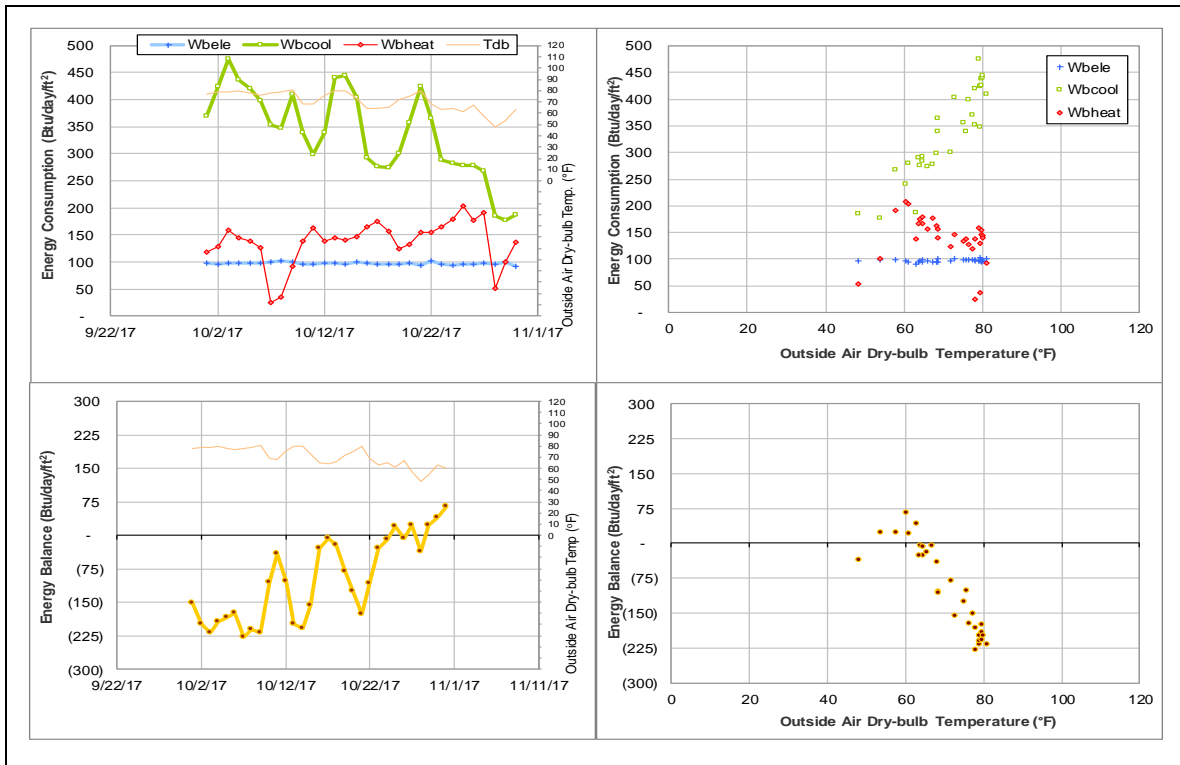
### Explanatory Figure: 13 months energy balance plot with original data.



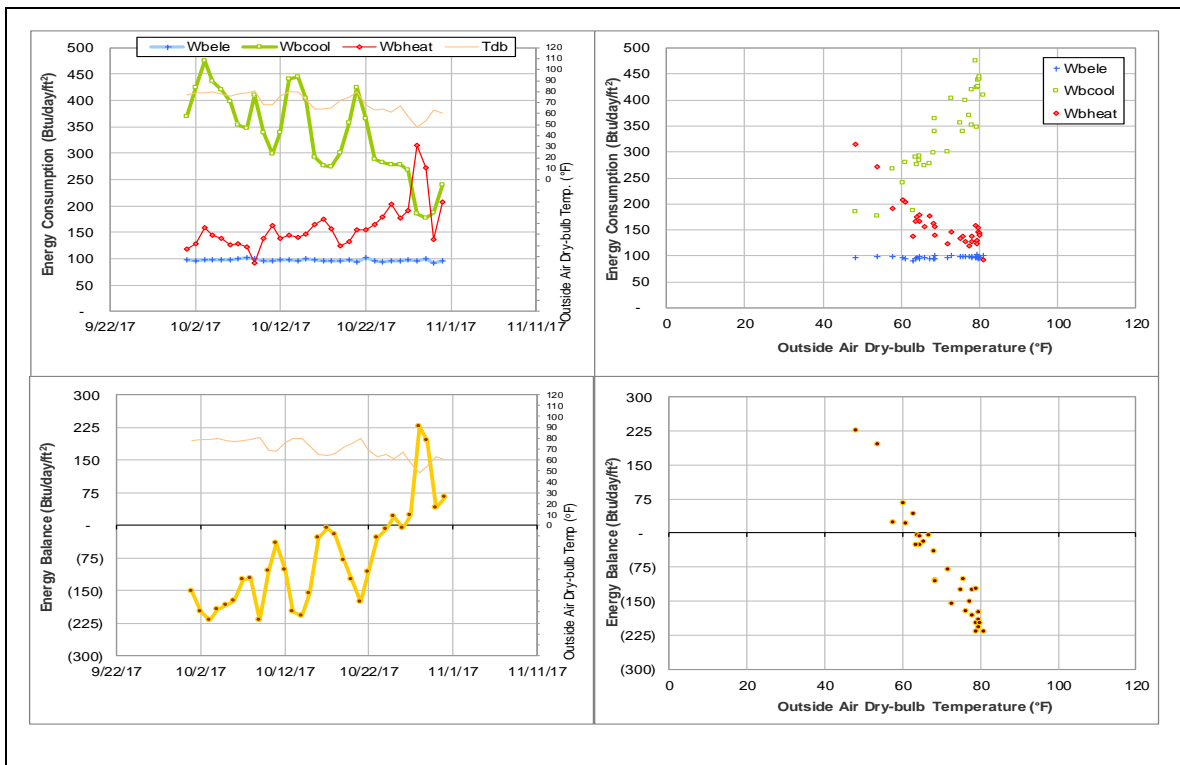
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*





## Schumacher Residence Hall (TAMU Bldg #430)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002030	4	10/7/2017 – 10/8/2017, 10/22/2017 – 10/23/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption increased for a short period. The metered values appear to be faulty.	10/7/2017 – 10/8/2017, 10/22/2017 – 10/23/2017

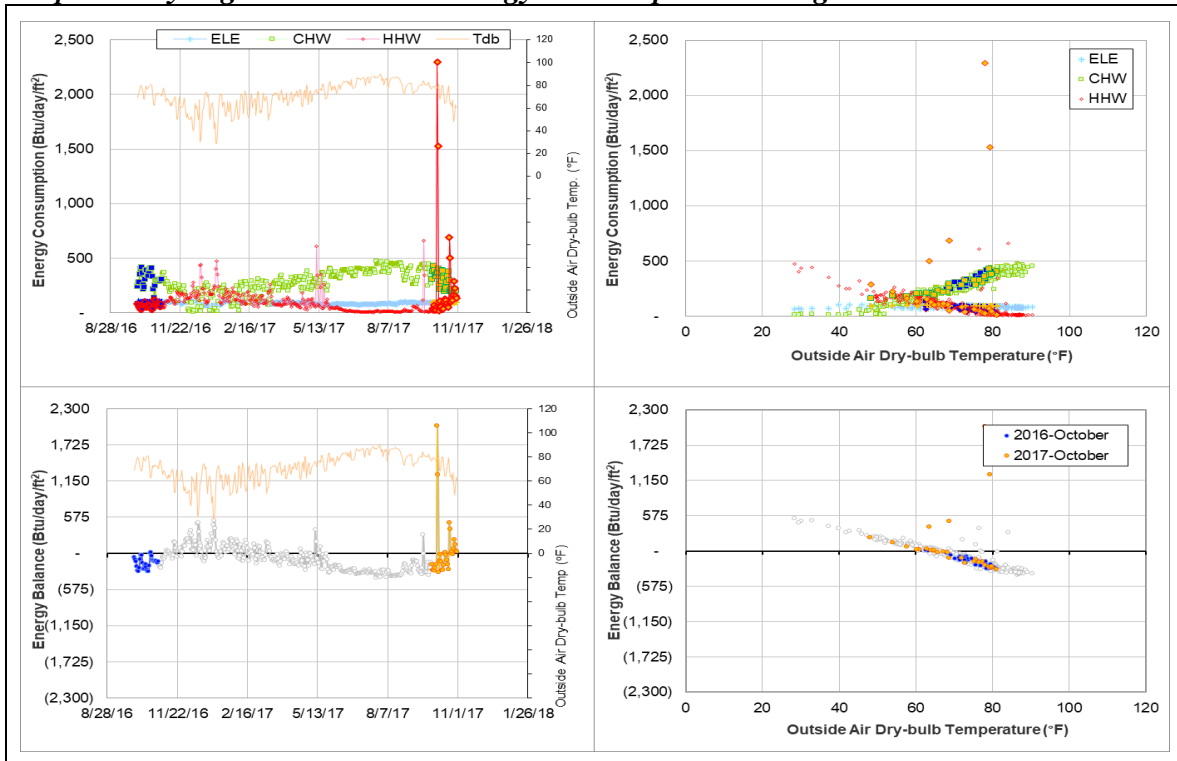
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002030	10/7/2017 – 10/8/2017, 10/22/2017 – 10/23/2017	Flow rate	Increased and maintained at a constant value

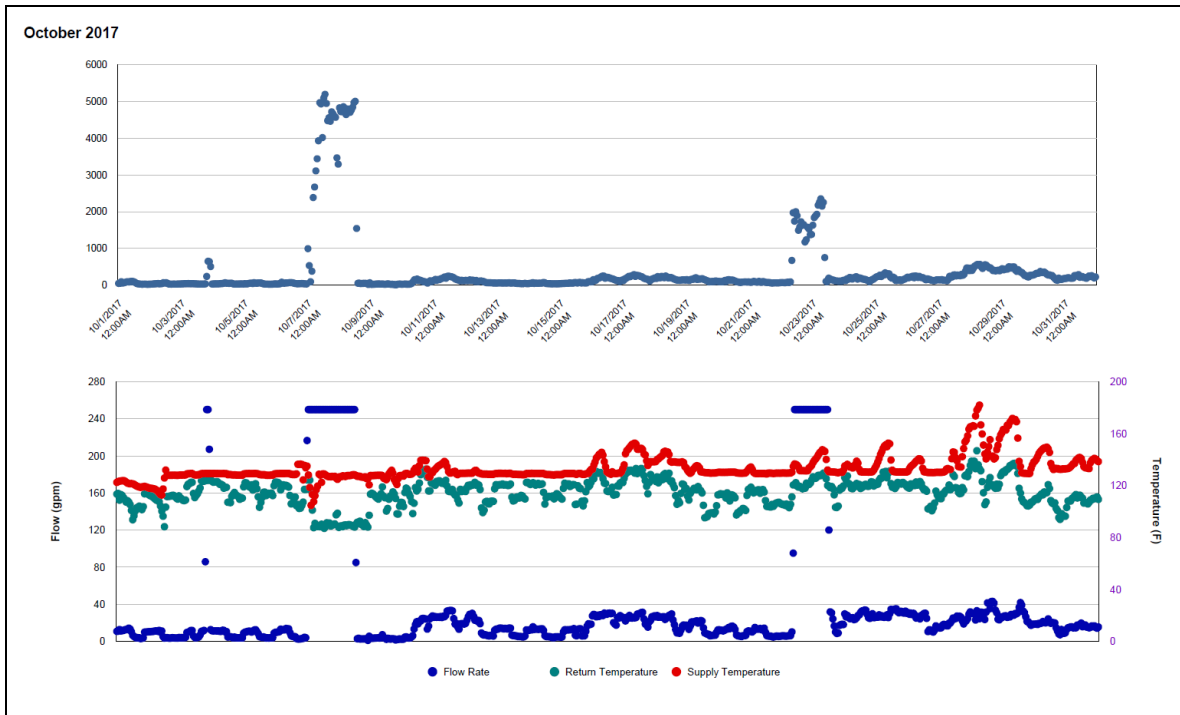
### Quantitative descriptions and comments

During 10/7/2017 – 10/8/2017 and 10/22/2017 – 10/23/2017, the HHW flow rate increased from the 0 – 40 gpm range to around 250 gpm and maintained at a constant value. The HHW consumption was estimated by model for this period.

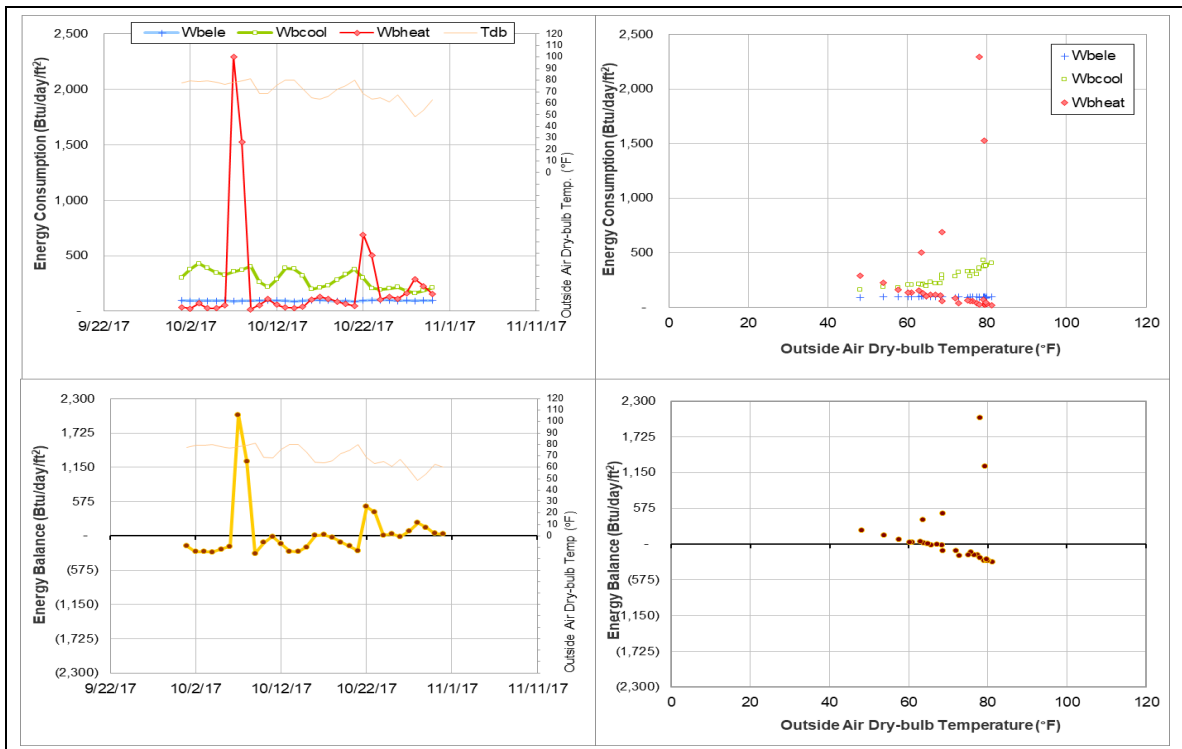
### Explanatory Figure: 13 months energy balance plot with original data



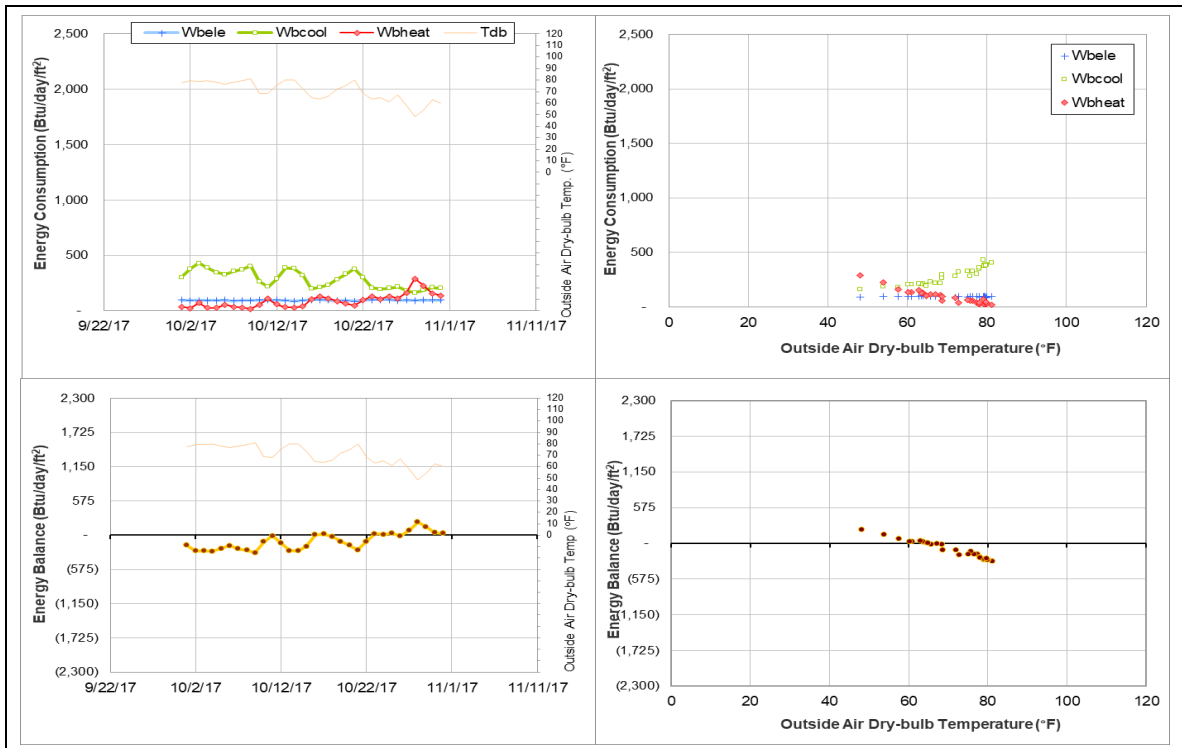
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during October 2017)***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Harrington Education Center Office Tower (TAMU Bldg #435)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002796	21	10/4/2017 – 10/12/2017, 10/15/2017 – 10/17/2017, 10/23/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	10/4/2017 – 10/12/2017, 10/15/2017 – 10/17/2017, 10/23/2017 – Ongoing

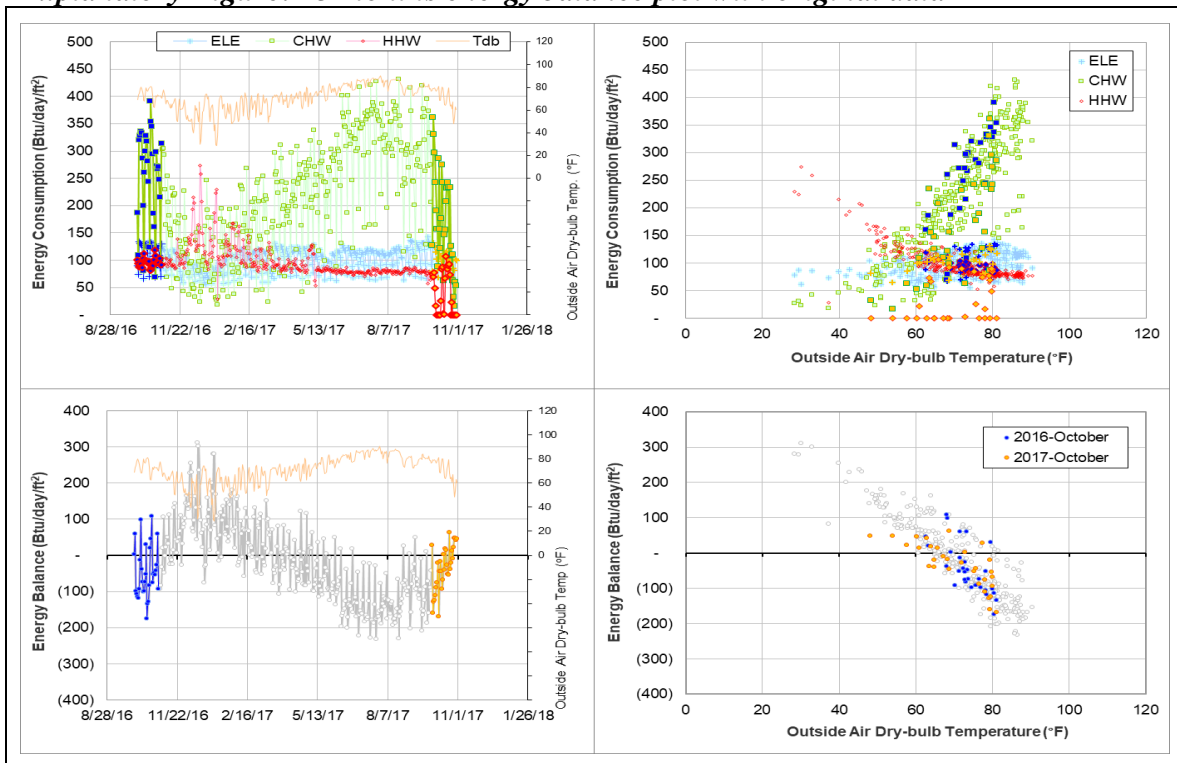
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002796	10/4/2017 – 10/12/2017, 10/15/2017 – 10/17/2017, 10/23/2017 – 10/31/2017	Flow rate	Decreased to zero

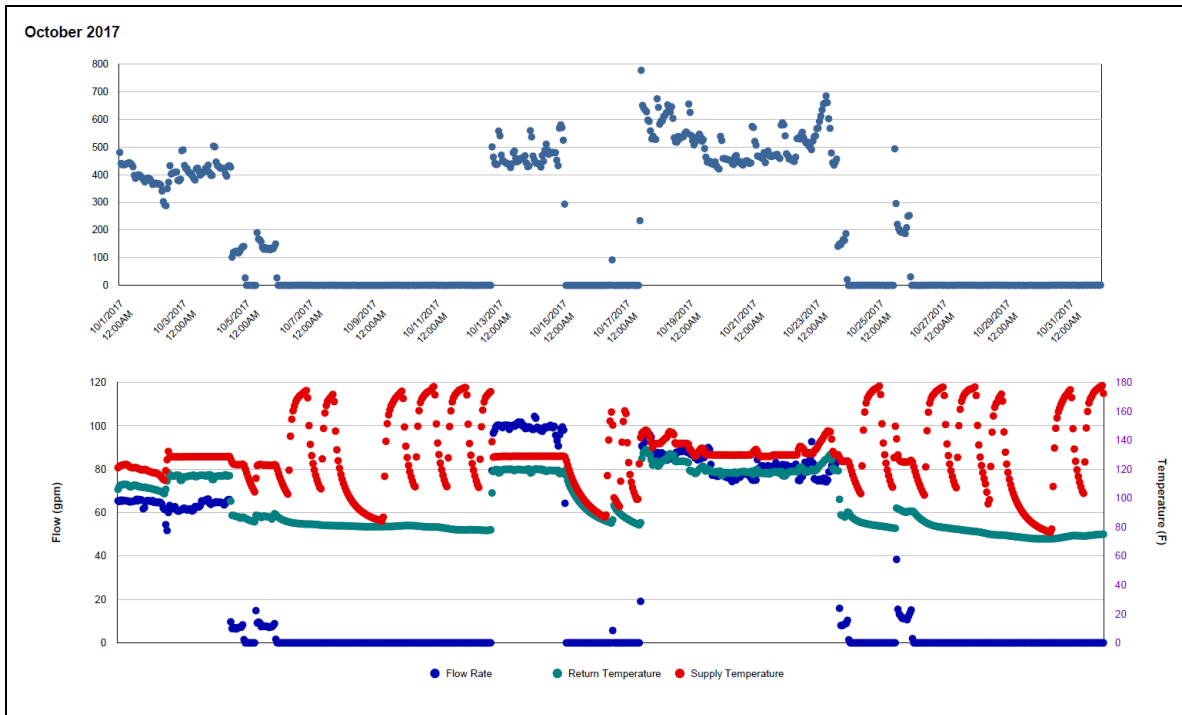
### Quantitative descriptions and comments

The HHW consumption decreased to zero during three different periods in October. These date ranges relate with the colder temperatures for the month when increased consumption is expected. The HHW consumption for these periods was estimated by model.

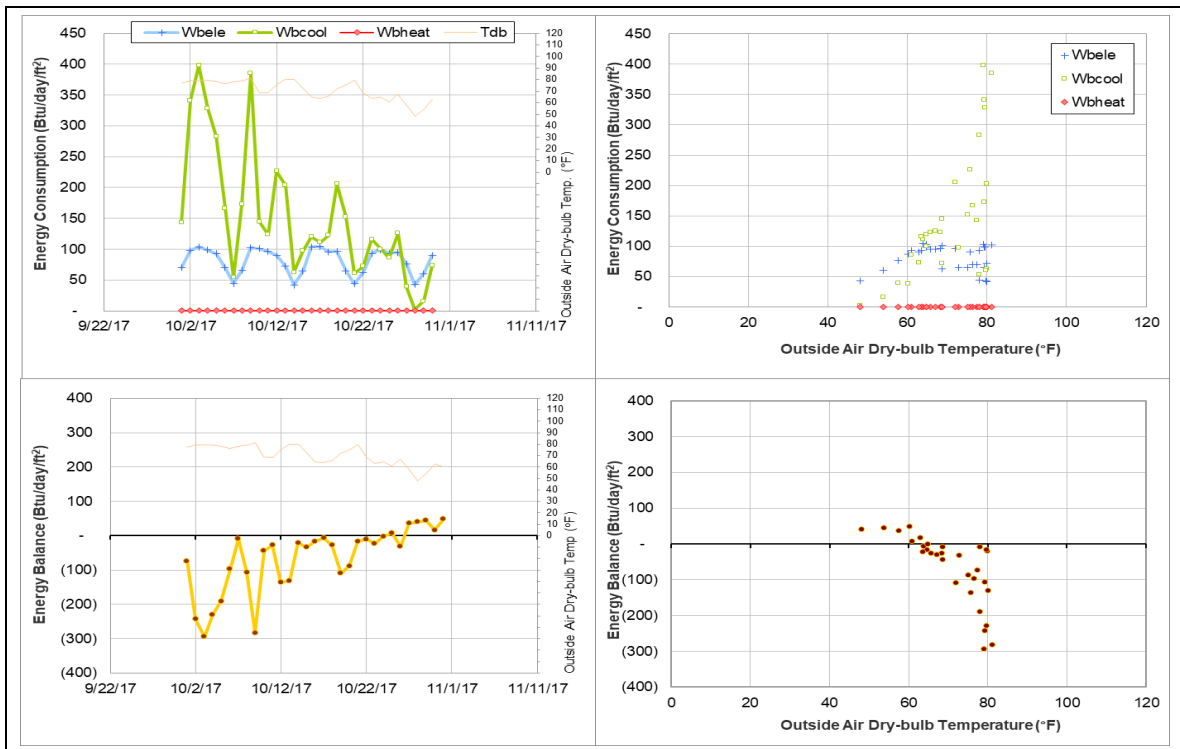
### Explanatory Figure: 13 months energy balance plot with original data



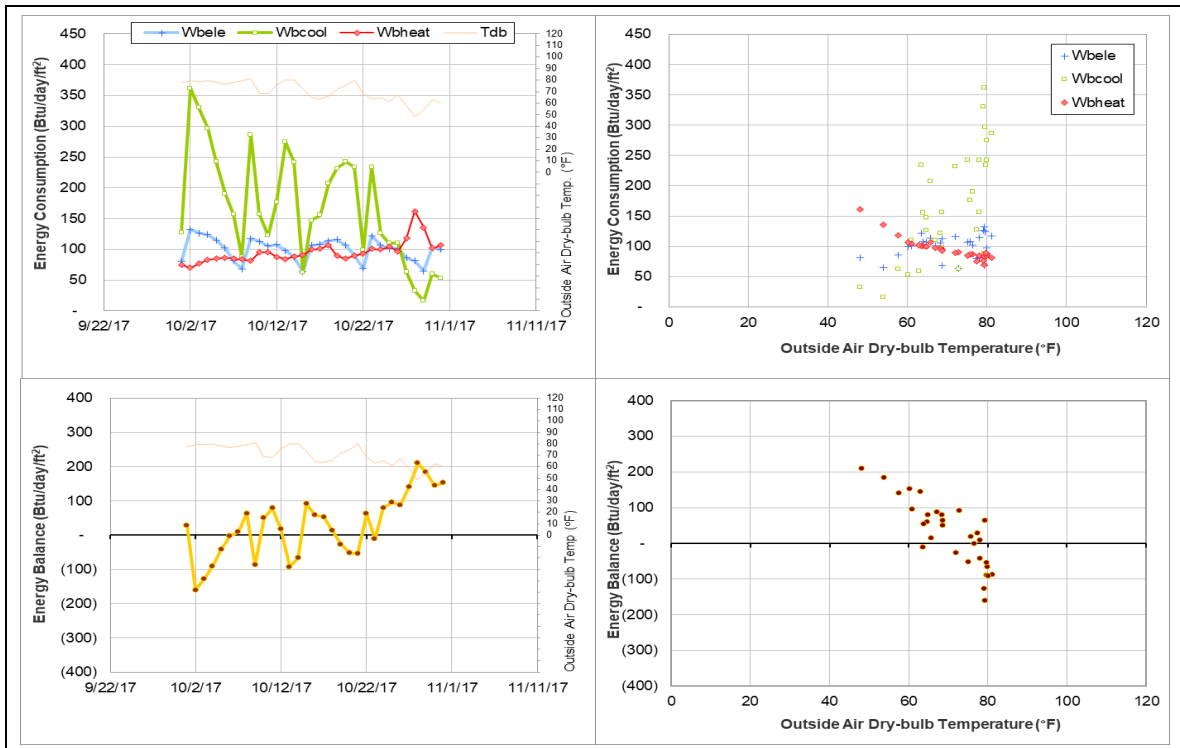
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during October 2017)***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Krueger Residence Hall (TAMU Bldg #441)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002504	31	10/1/2017 – 10/31/2017	Model
HHW	002500	31	10/1/2017 – 10/31/2017	Calculated using hourly flow rate and Delta-T

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	9/22/2017 – Ongoing
HHW	The metered values appear to be faulty.	9/22/2017 – Ongoing

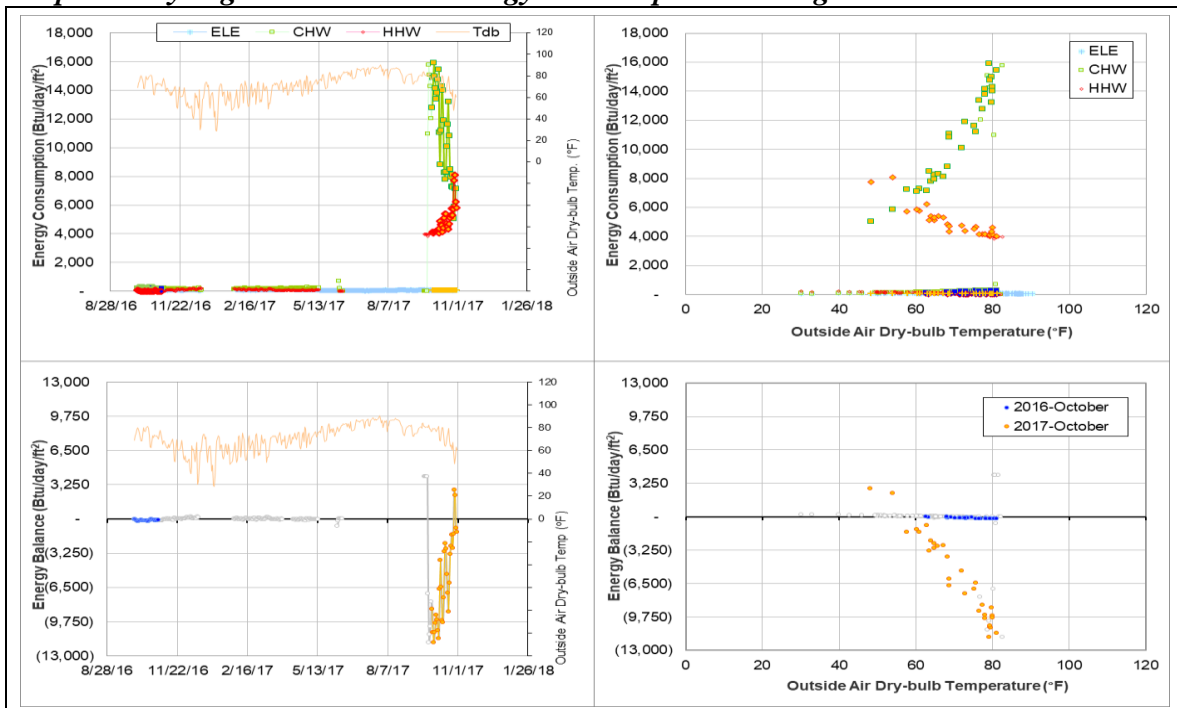
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002504	9/22/2017 – Ongoing	Energy calculation	Faulty
HHW	002500	9/22/2017 – Ongoing	Energy calculation	Faulty

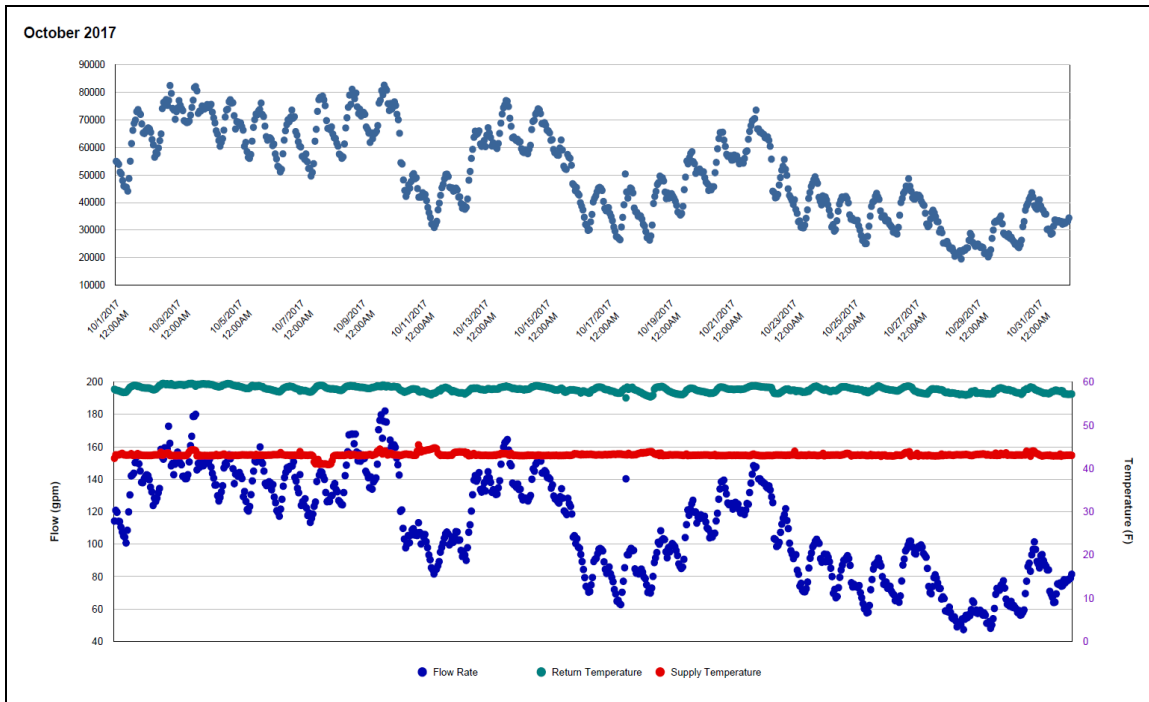
### Quantitative descriptions and comments

Krueger Residence Hall underwent HVAC renovation during the summer of 2017. The CHW and HHW meter data returned on 9/22/2017, however the new consumption levels are unreasonably high, 4,000 – 16,000 Btu/day/ft<sup>2</sup> for CHW and 4,000 – 8,000 Btu/day/ft<sup>2</sup> for HHW. When looking at the flow rates and Delta-T's, the calculated energy at the meters are higher than expected. The CHW and consumption was estimated by model using a baseline period prior to renovation because the flow rate and delta-T from ION EEM is not available. The HHW consumption was calculated using the hourly flow rate and Delta-T from ION EEM.

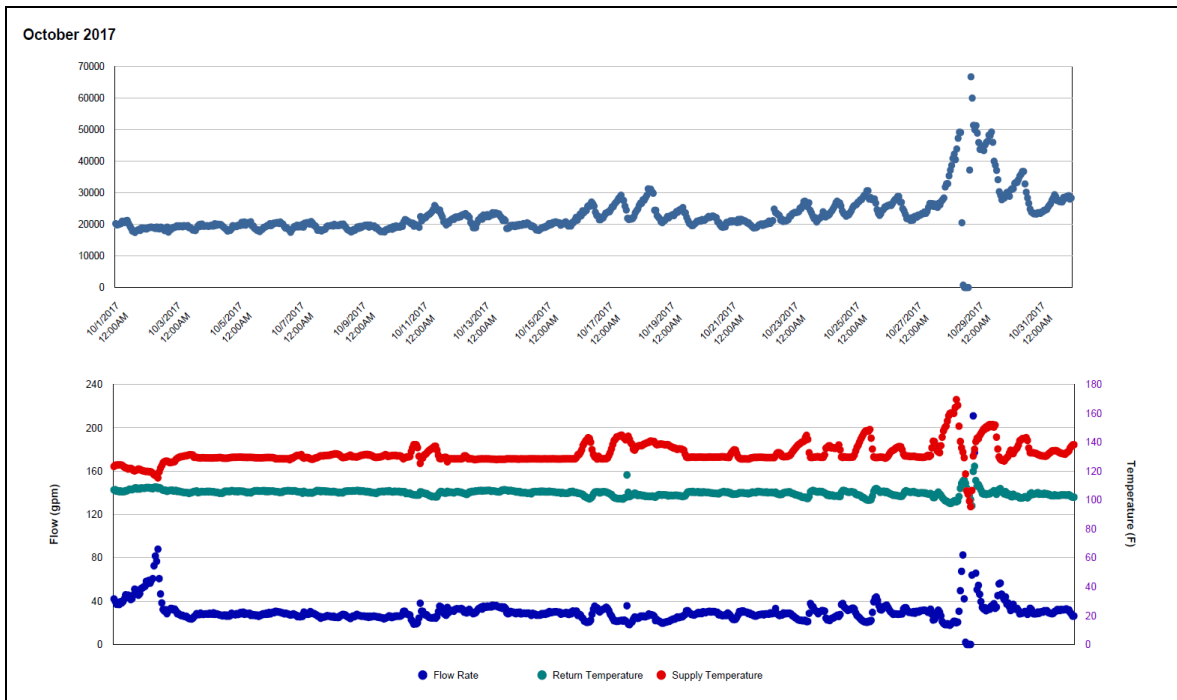
### Explanatory Figure: 13 months energy balance plot with original data



***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during October 2017)***

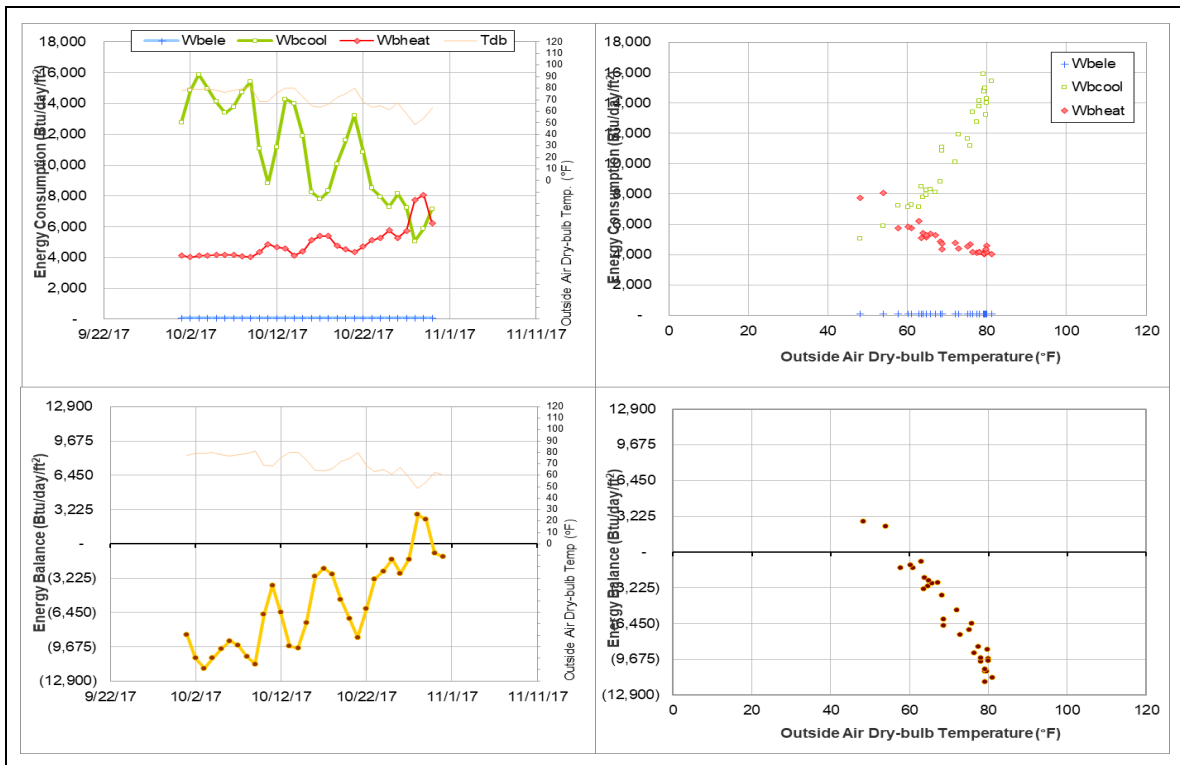


***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during October 2017)***

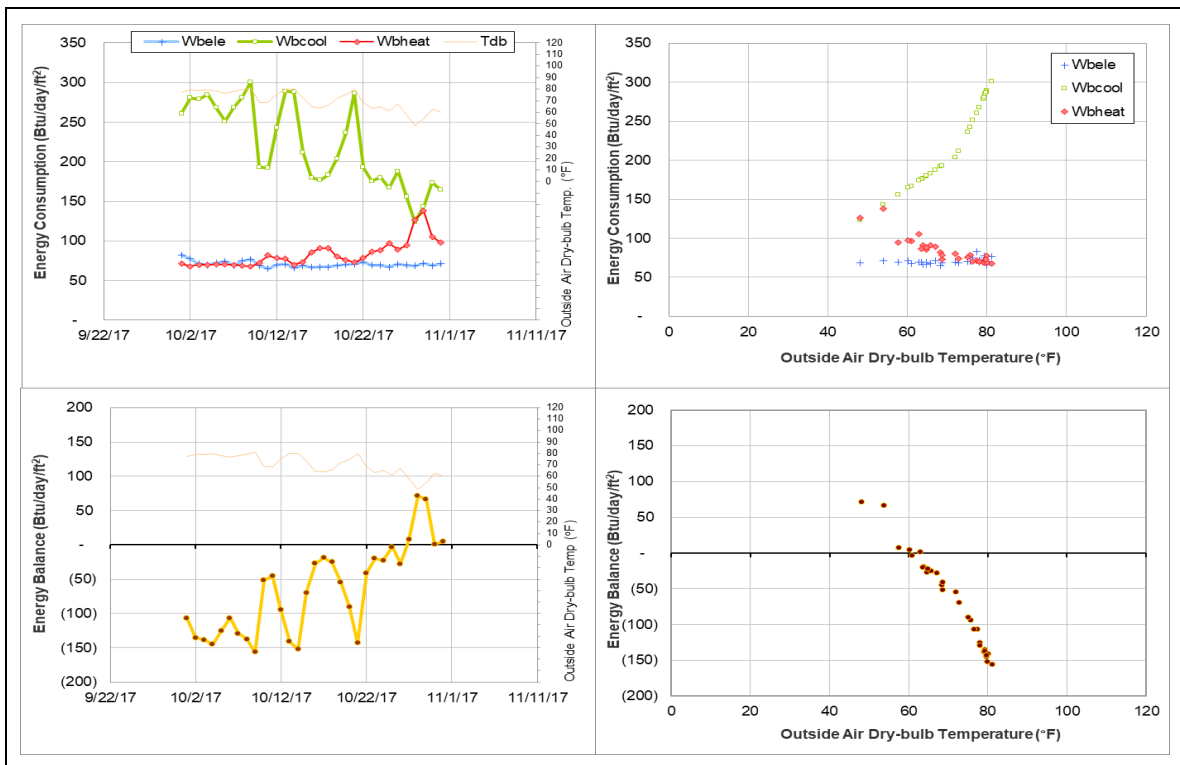




*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Dunn Residence Hall (TAMU Bldg #442)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002515	5	10/13/2017 – 10/17/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	10/13/2017 – 10/17/2017

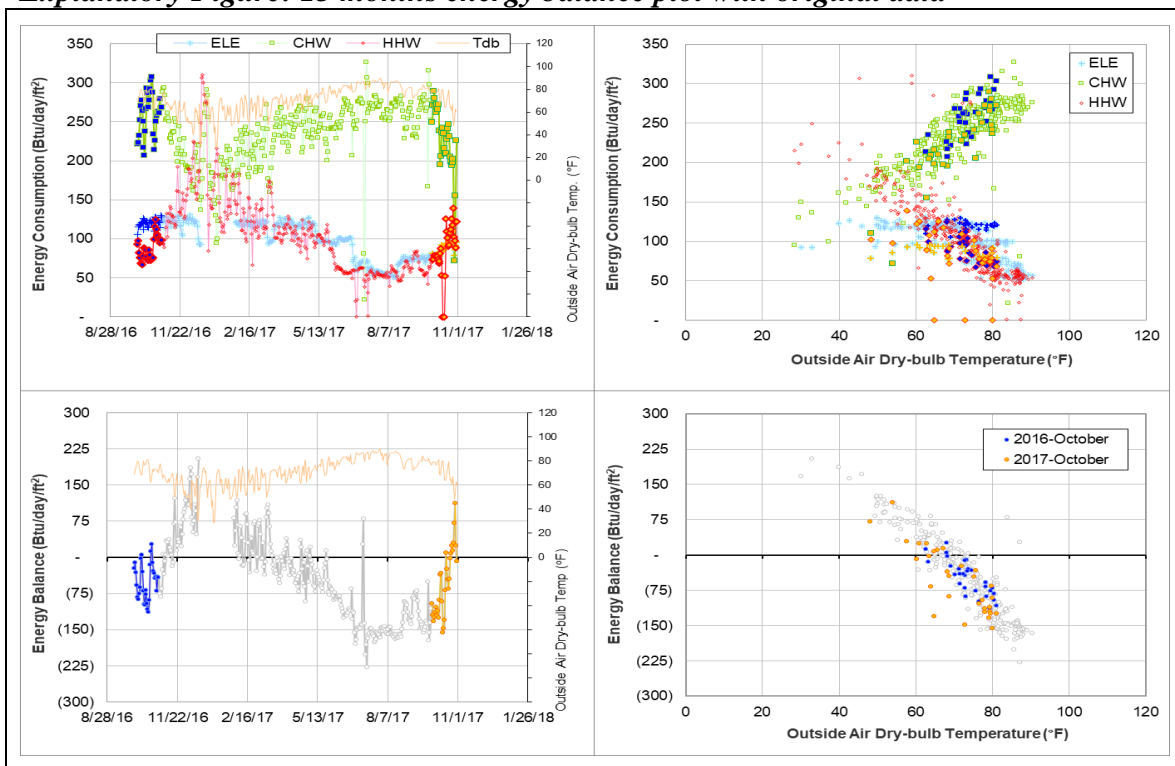
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002515	10/13/2017 – 10/17/2017	Supply Temp	Decreased, negative Delta-T

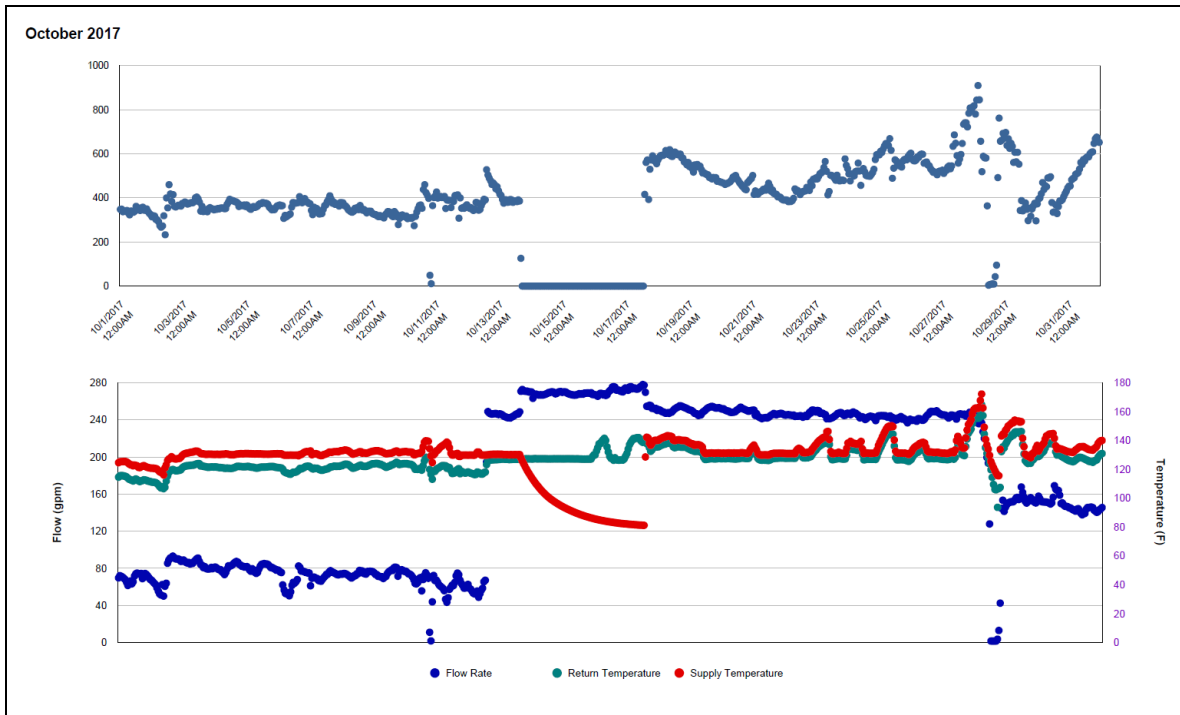
### Quantitative descriptions and comments

From 10/13/2017 to 10/17/2017, the HHW supply temperature decreased suddenly causing the Delta-T to become negative. The HHW consumption was estimated by model for this period.

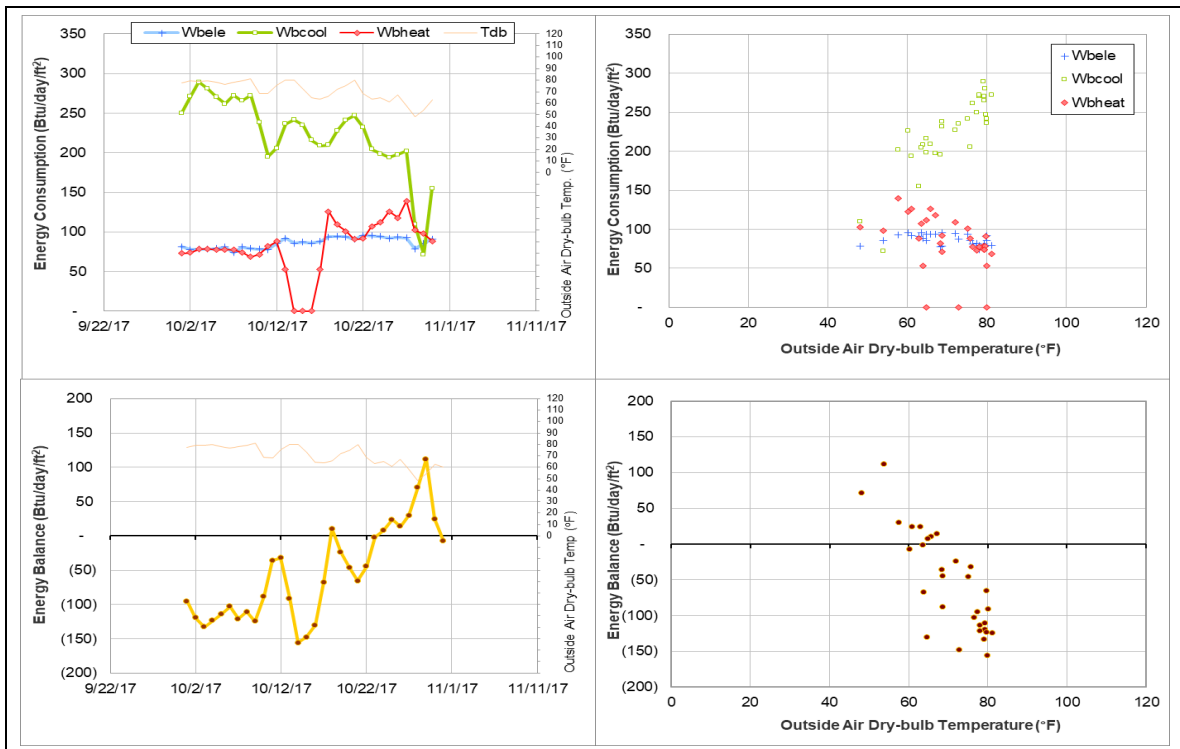
### Explanatory Figure: 13 months energy balance plot with original data



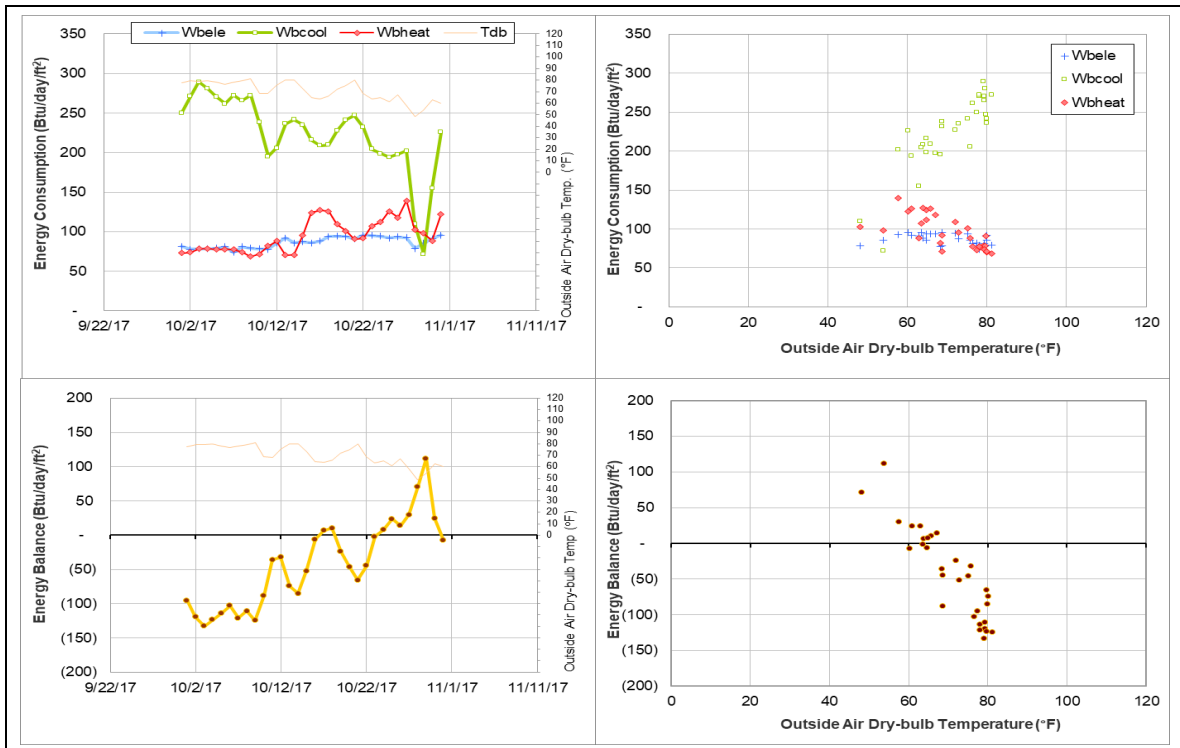
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during October 2017)***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Peterson Building (TAMU Bldg #444)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002922	31	10/1/2017 – 10/31/2017	Model

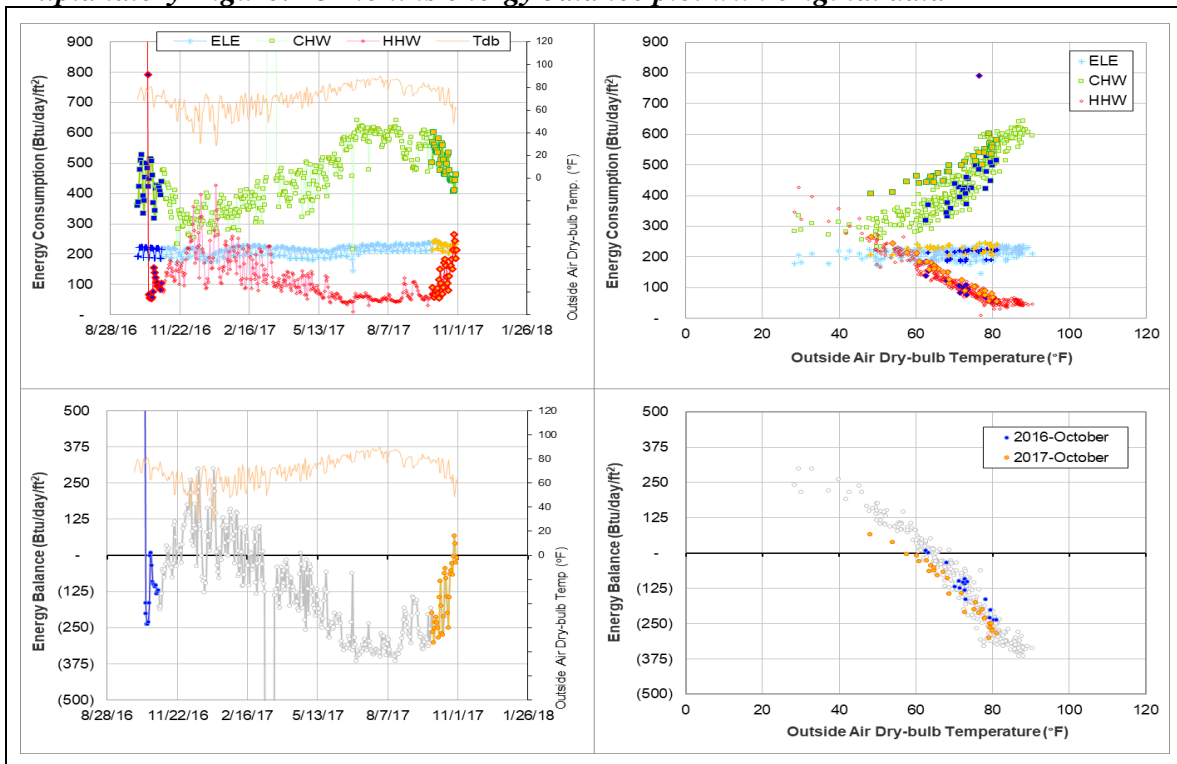
### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	10/1/2017 – Ongoing

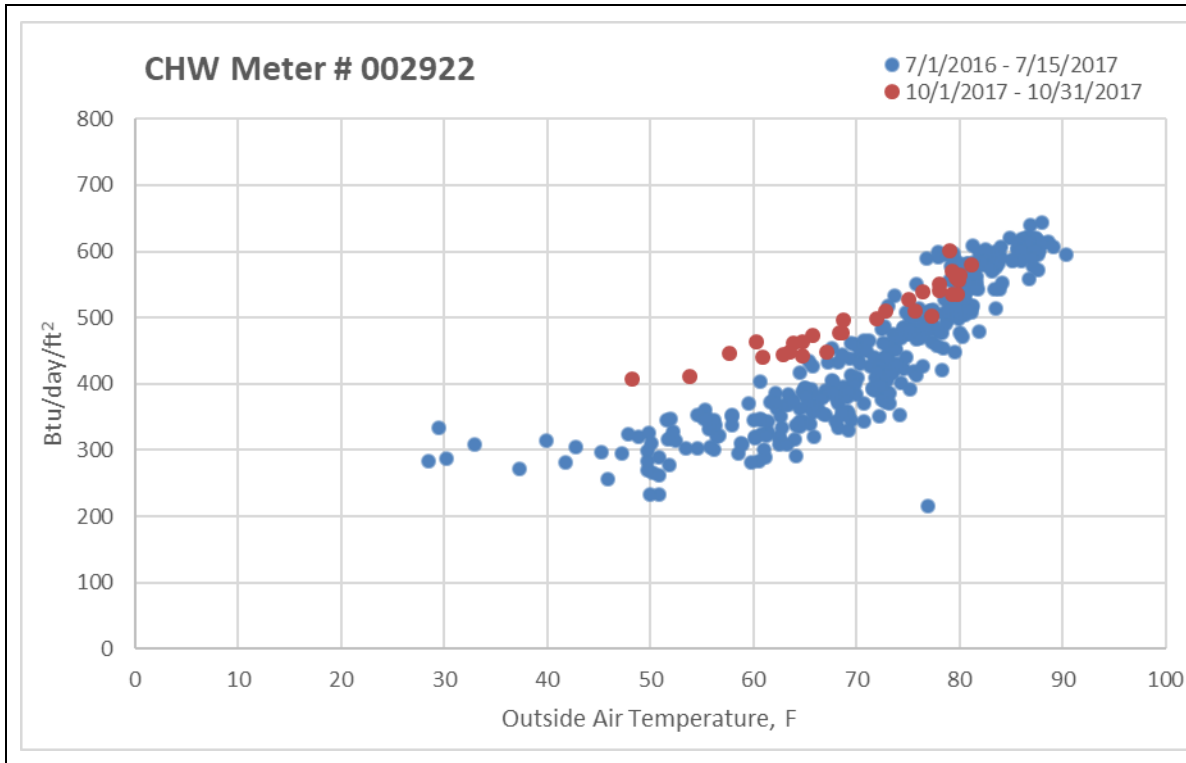
### Quantitative descriptions and comments

The CHW consumption pattern started to increase in October. When compared to October 2016, the consumption pattern increased is 50 Btu/day/ft<sup>2</sup> (10%) in warmer temperatures and 100 Btu/day/ft<sup>2</sup> (33%) in cooler temperatures. The energy balance also decreased in the cooler temperature range by 45 – 96 Btu/day/ft<sup>2</sup>. The cross-point temperature decreased from 63 °F to 59 °F. No obvious meter issues were detected. The CHW consumption was estimated by model for the month.

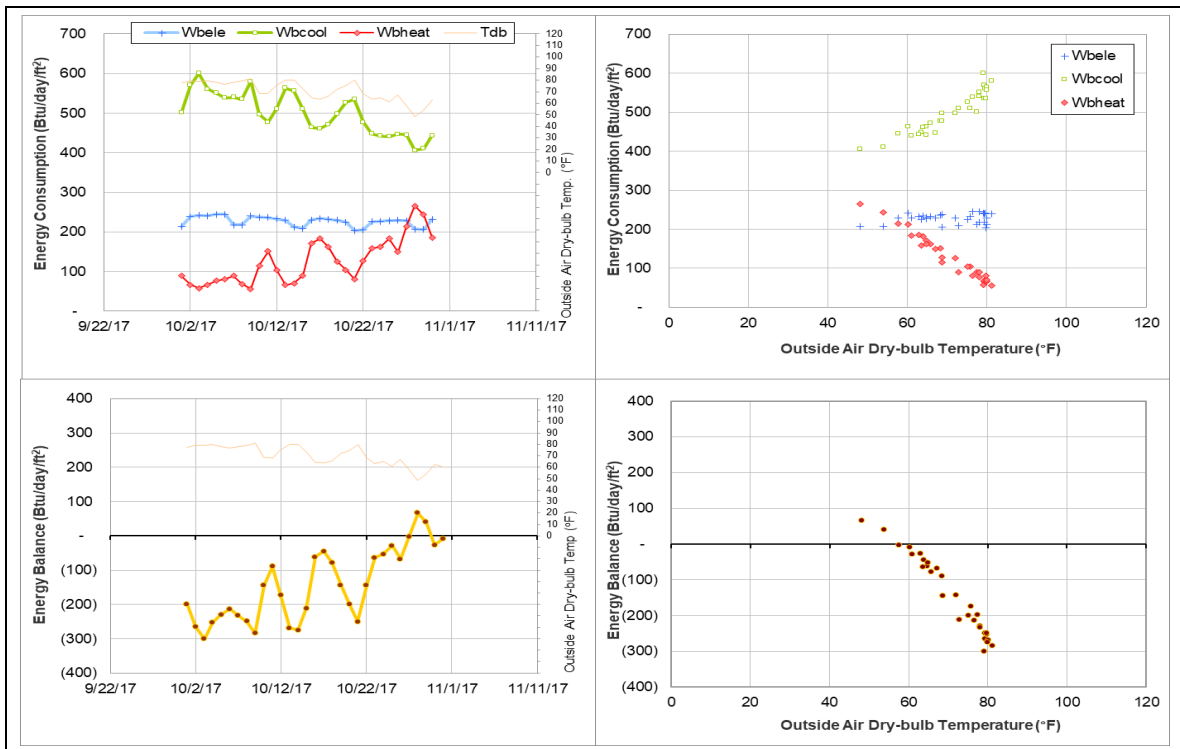
### Explanatory Figure: 13 months energy balance plot with original data



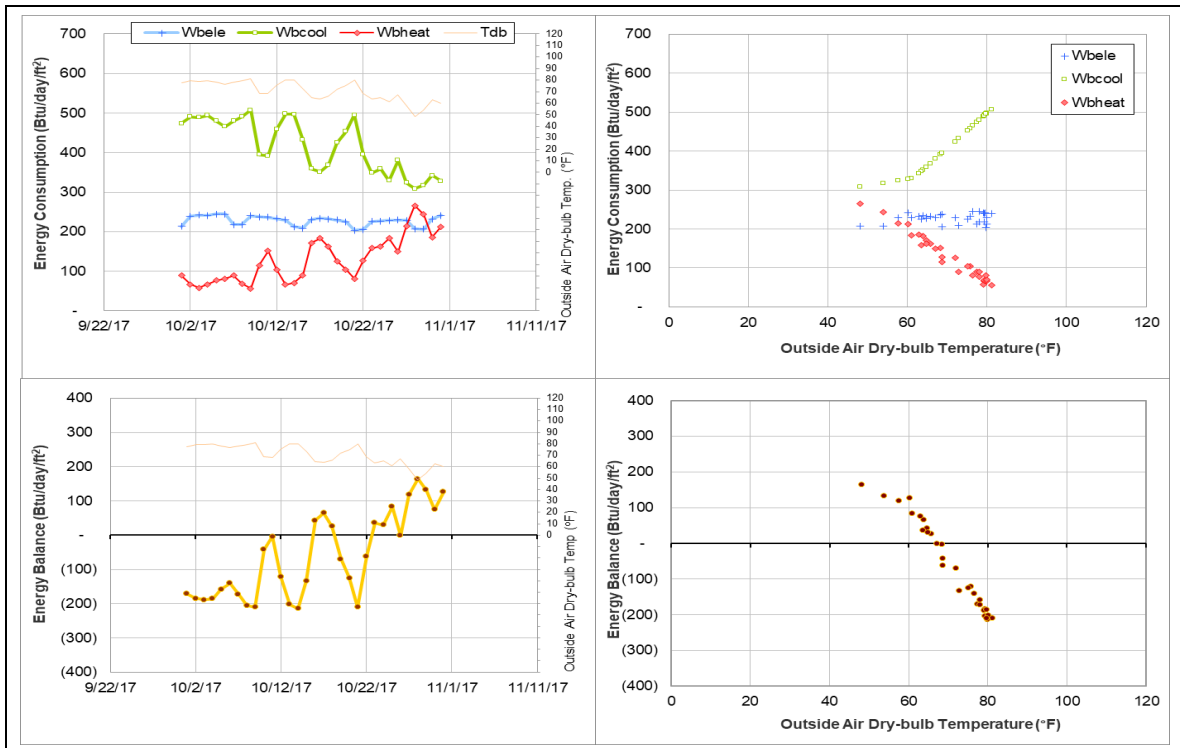
***Explanatory Figure: Scatter plot of CHW Meter #002922 versus outside air temperature showing the pattern before and after 10/1/2017.***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Rudder Theatre Complex (TAMU Bldg # 446)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	002977	31	10/1/2017 – 10/31/2017	Model
ELE	002980	31	10/1/2017 – 10/31/2017	Model
CHW	004297	31	10/1/2017 – 10/31/2017	Model
HHW	004309	31	10/1/2017 – 10/31/2017	Model

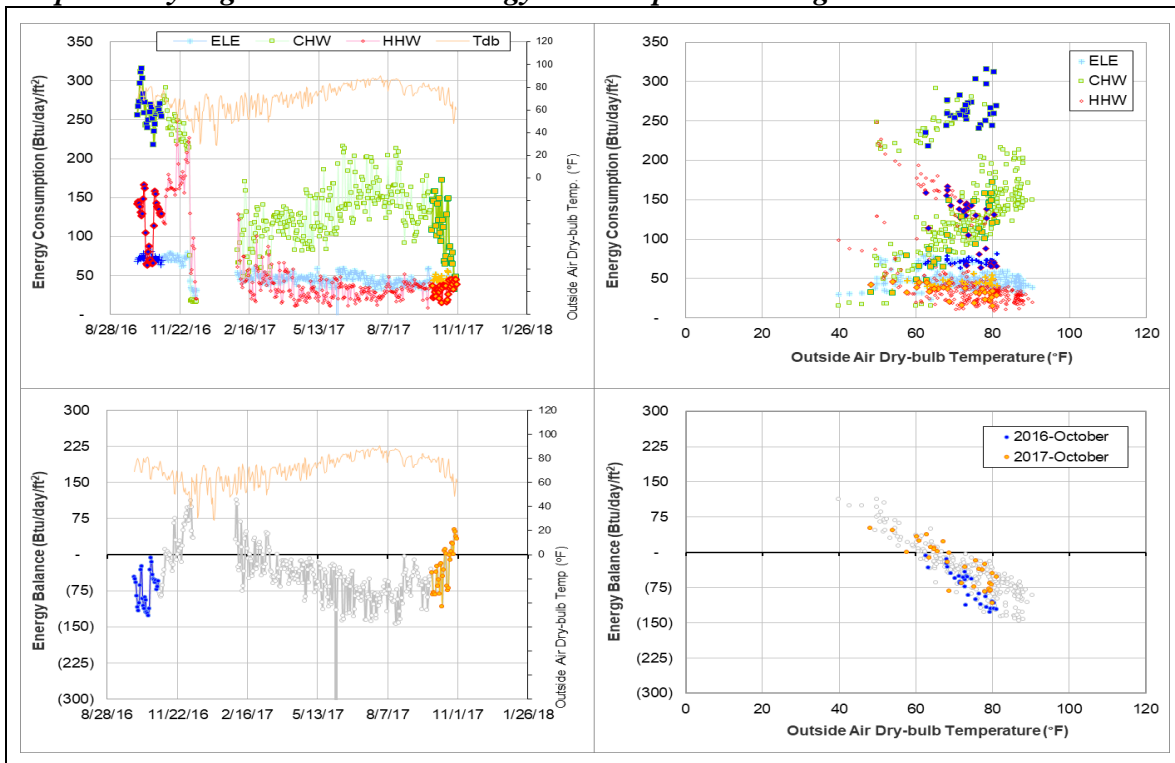
### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level has decreased suddenly.	2/1/2017 – Ongoing
ELE	The consumption level has decreased suddenly.	2/1/2017 – Ongoing
CHW	The consumption level has decreased suddenly.	2/1/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	2/1/2017 – Ongoing

### Quantitative descriptions and comments

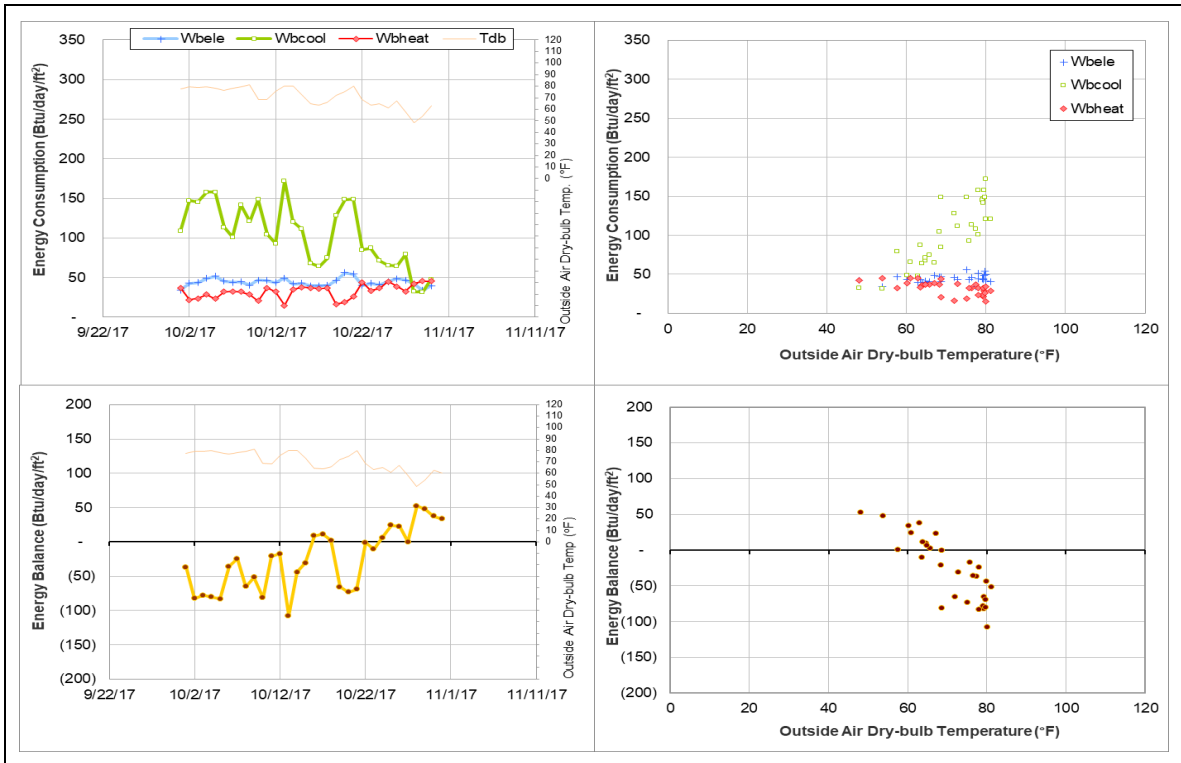
ELE, CHW, and HHW consumption dropped during the winter break of last year (2016-2017) and again during the winter break in 2015-2016. This drop is not suspected to be a meter malfunction since a decrease would be expected during break periods and that the data from 2015-2016 winter suggests that the consumption went back to the normal level around 1/25/2016. However, the data following 2016-2017 winter has not yet returned to the normal level. The energy balance of this building does not show separate patterns for these two levels. The whole month is estimated using a model for ELE, CHW, and HHW.

### Explanatory Figure: 13 months energy balance plot with original data

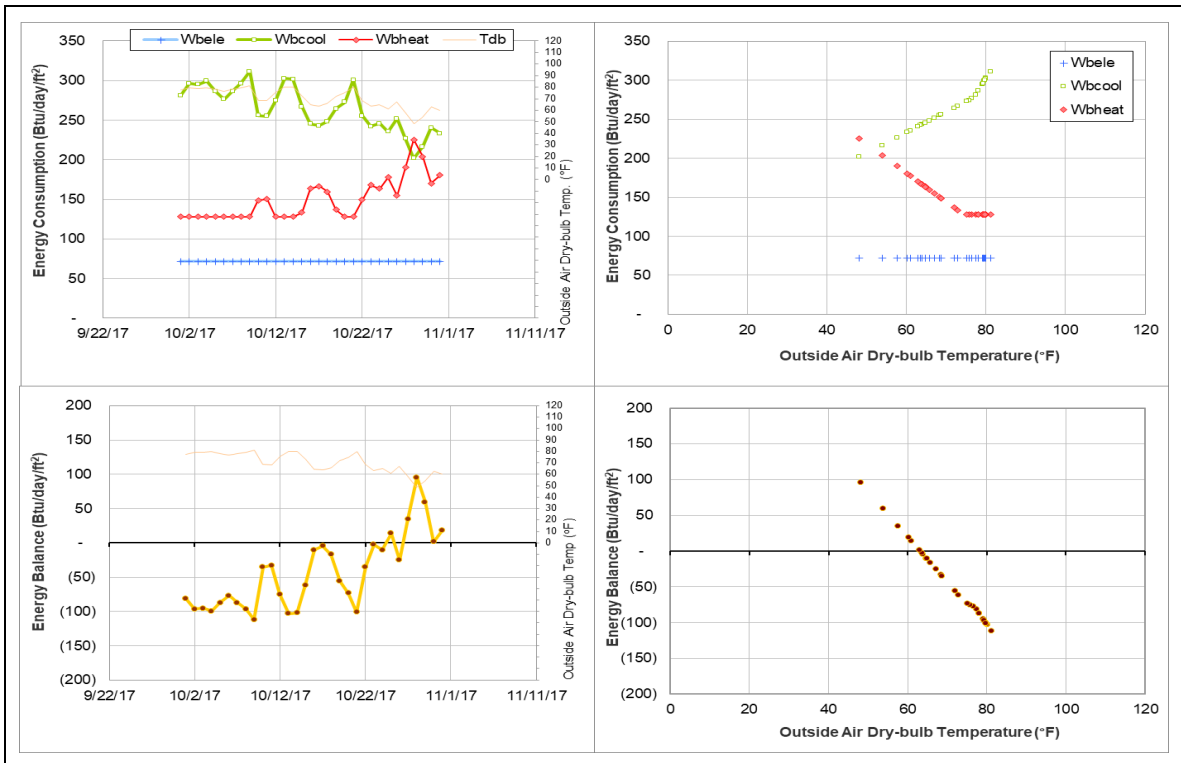




*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Aston Residence Hall (TAMU Bldg #447)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002470	8	10/13/2017 – 10/17/2017, 10/28/2017 – 10/30/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	10/13/2017 – 10/17/2017, 10/28/2017 – 10/30/2017

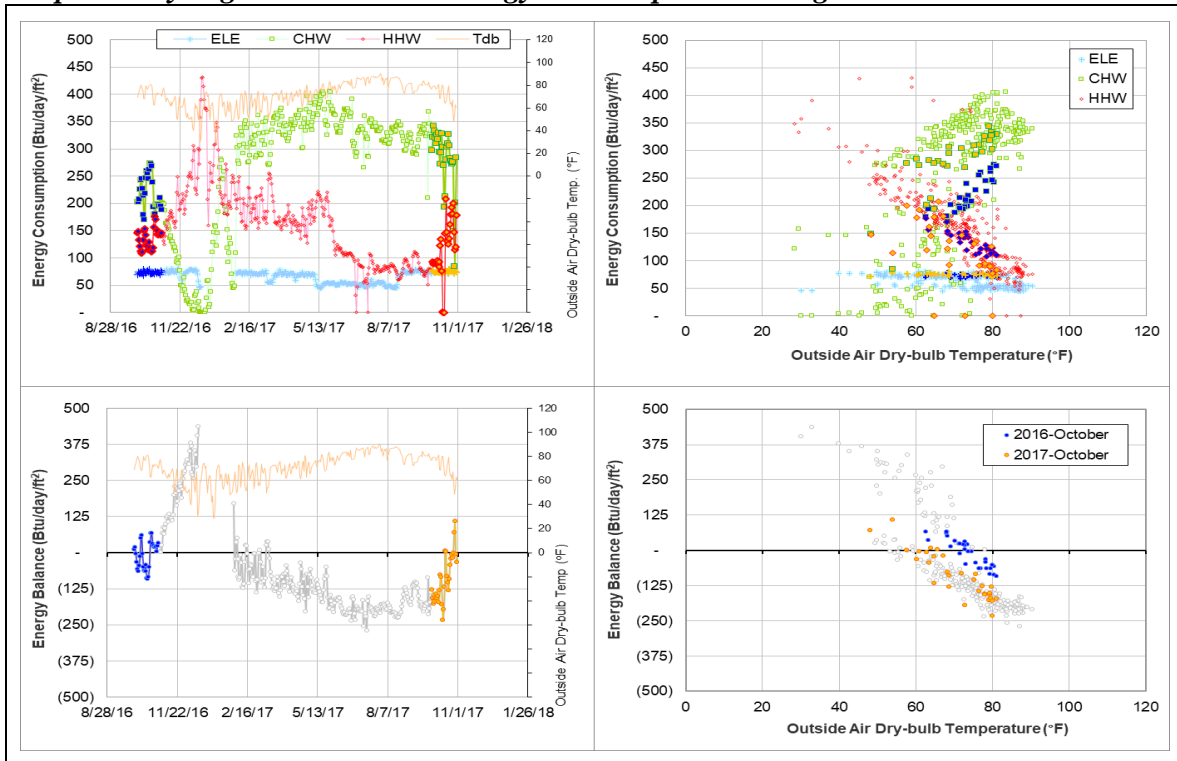
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002470	10/13/2017 – 10/17/2017	Flow Rate	Decreased to zero
		10/28/2017 – 10/30/2017	Flow Rate	Decreased

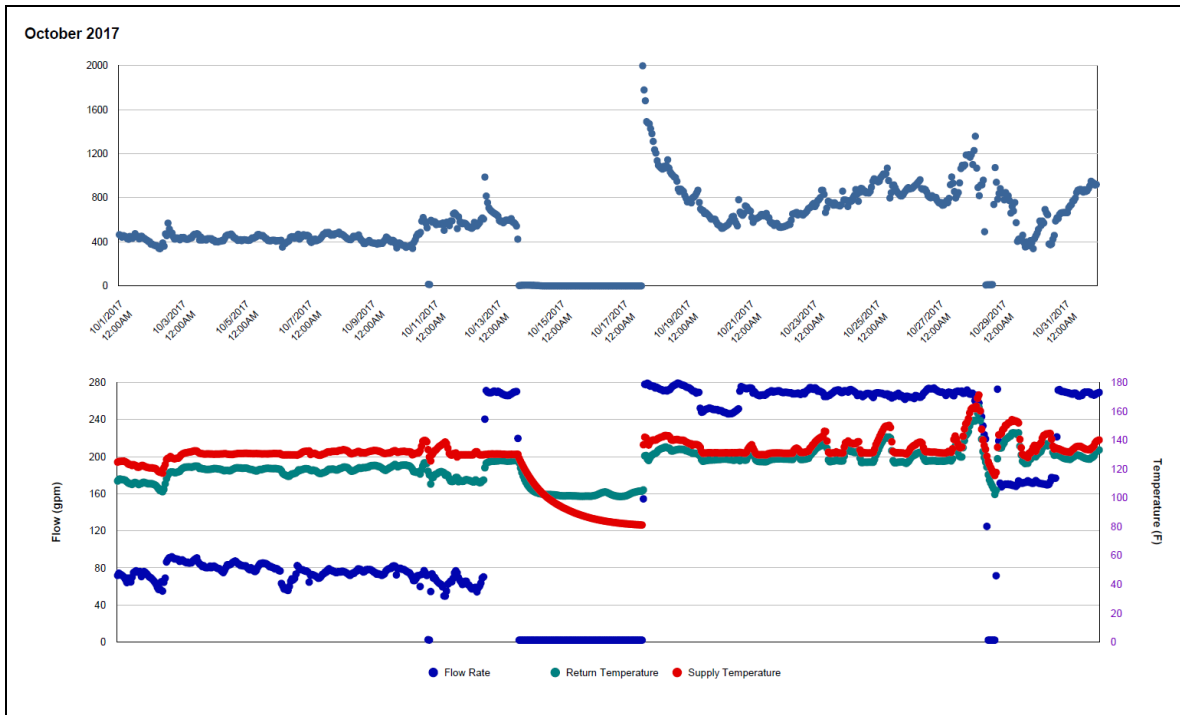
### Quantitative descriptions and comments

During 10/13/2017 – 10/17/2017, the HHW flow rate decreased to zero. Later, during 10/28/2017 – 10/30/2017, the flow rate decreased again from about 270 gpm to 170 gpm causing the consumption level to decrease below the 13-month pattern by 60 – 100 Btu/day/ft<sup>2</sup>. The HHW consumption was estimated by model for these periods.

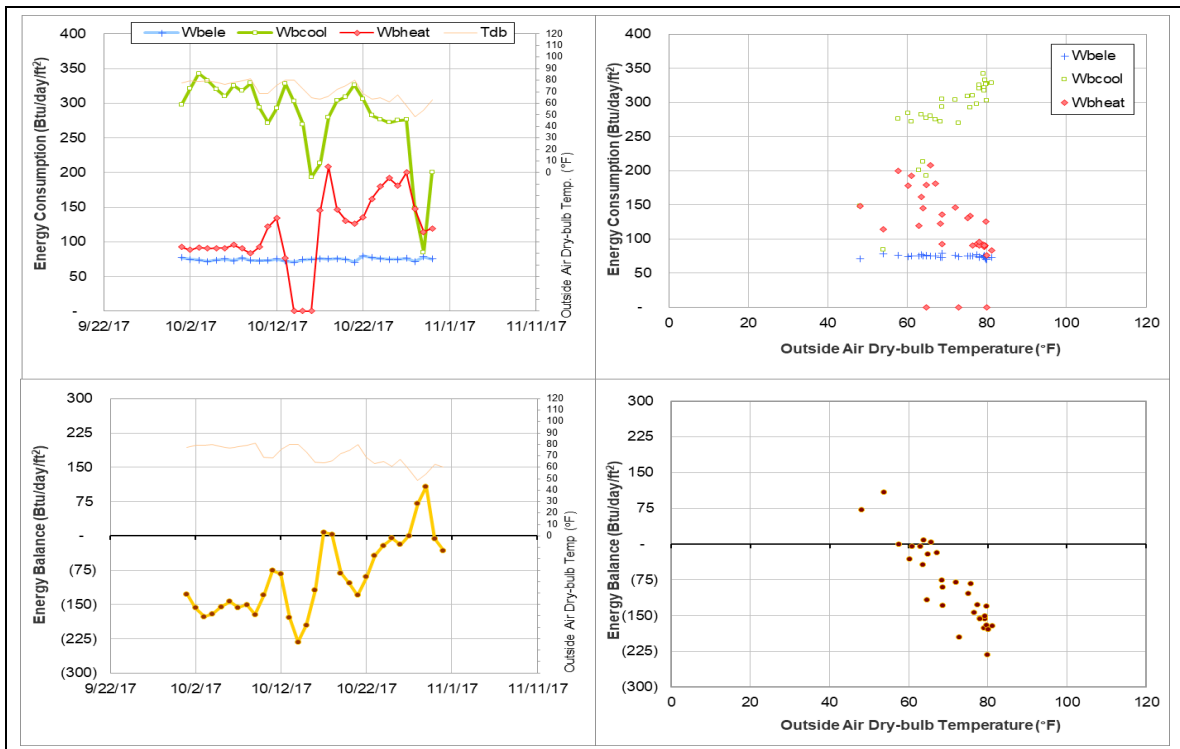
### Explanatory Figure: 13 months energy balance plot with original data



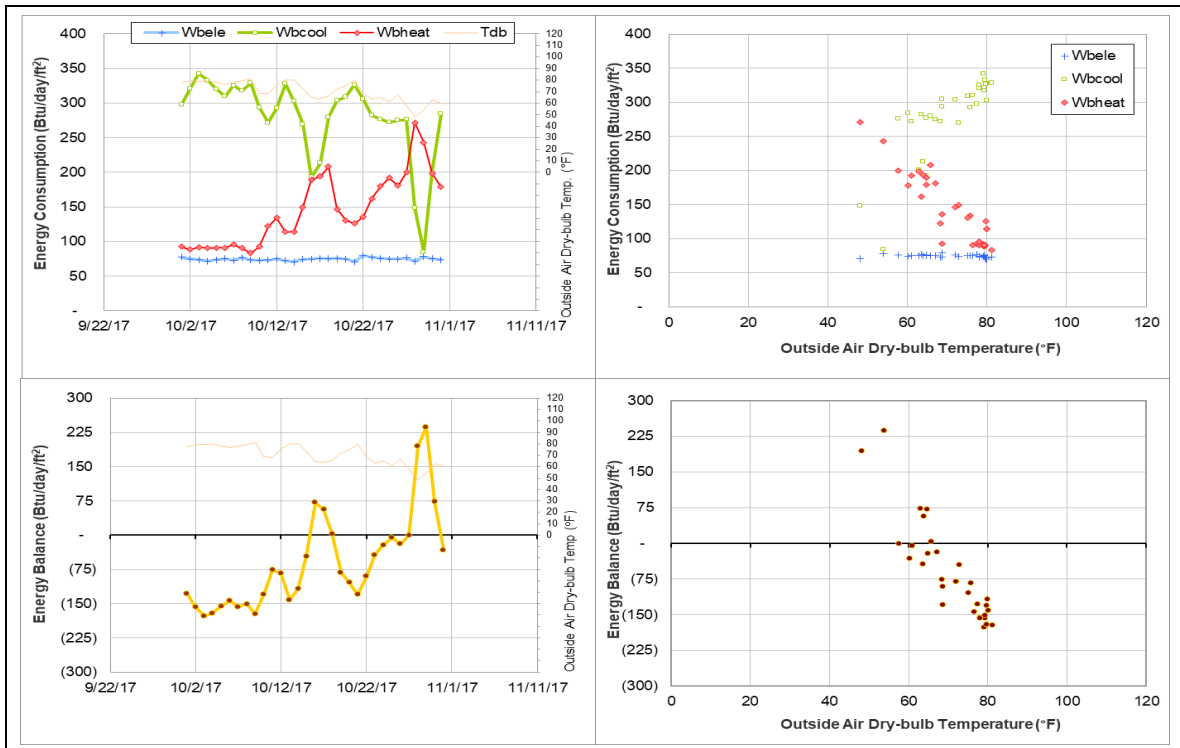
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during October 2017)***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Adams Band Hall (TAMU Bldg #448)

### *Estimated data*

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002555	31	10/1/2017 – 10/31/2017	Model
HHW	002566	31	10/1/2017 – 10/31/2017	Model

### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption level is lower than the level during the past year.	7/24/2017 – Ongoing
HHW	The consumption level is lower than the level during the past year.	7/24/2017 – Ongoing

### *Changes in sensor readings related to the detected issues*

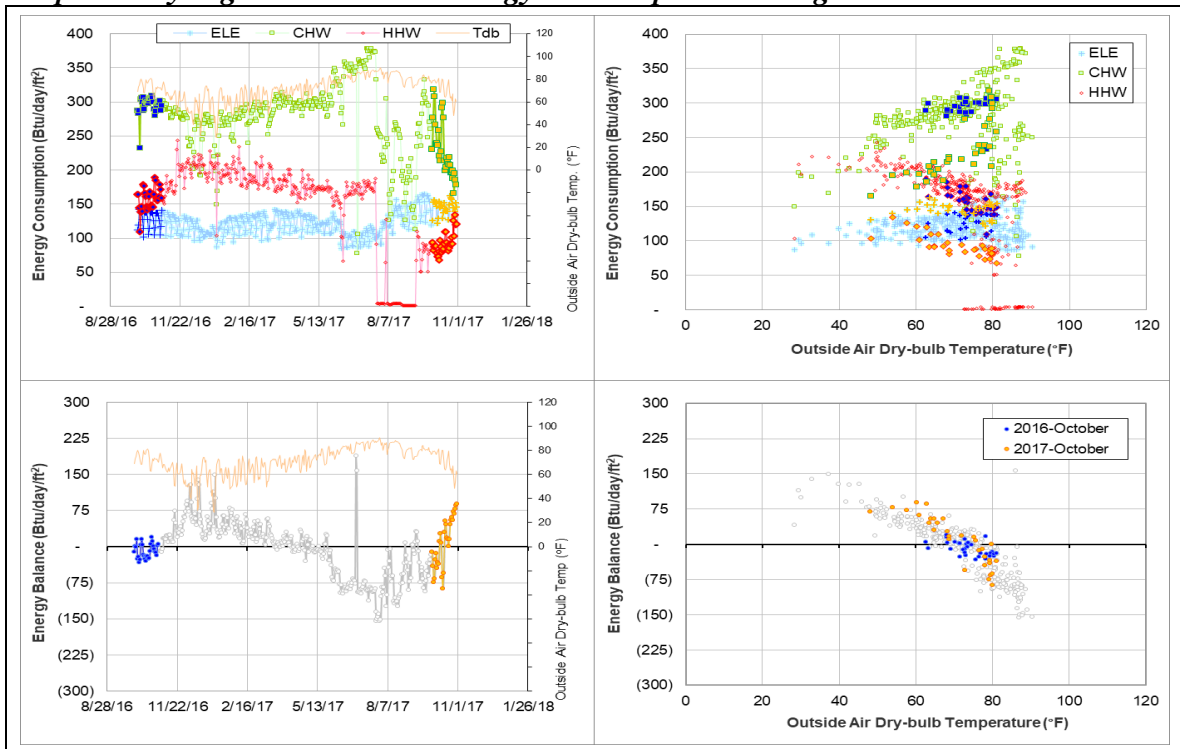
Energy Type	Meter ID	Period	Type	Description
CHW	002555	7/24/2017 – 9/17/2017, 9/28/2017 – Ongoing	Delta-T	Decreased
HHW	002566	7/24/2017 – 9/11/2017	Flow rate	Decreased to zero
		9/11/2017 – 9/18/2017	Delta-T	Decreased
		9/18/2017 – Ongoing	Flow rate	Decreased

### *Quantitative descriptions and comments*

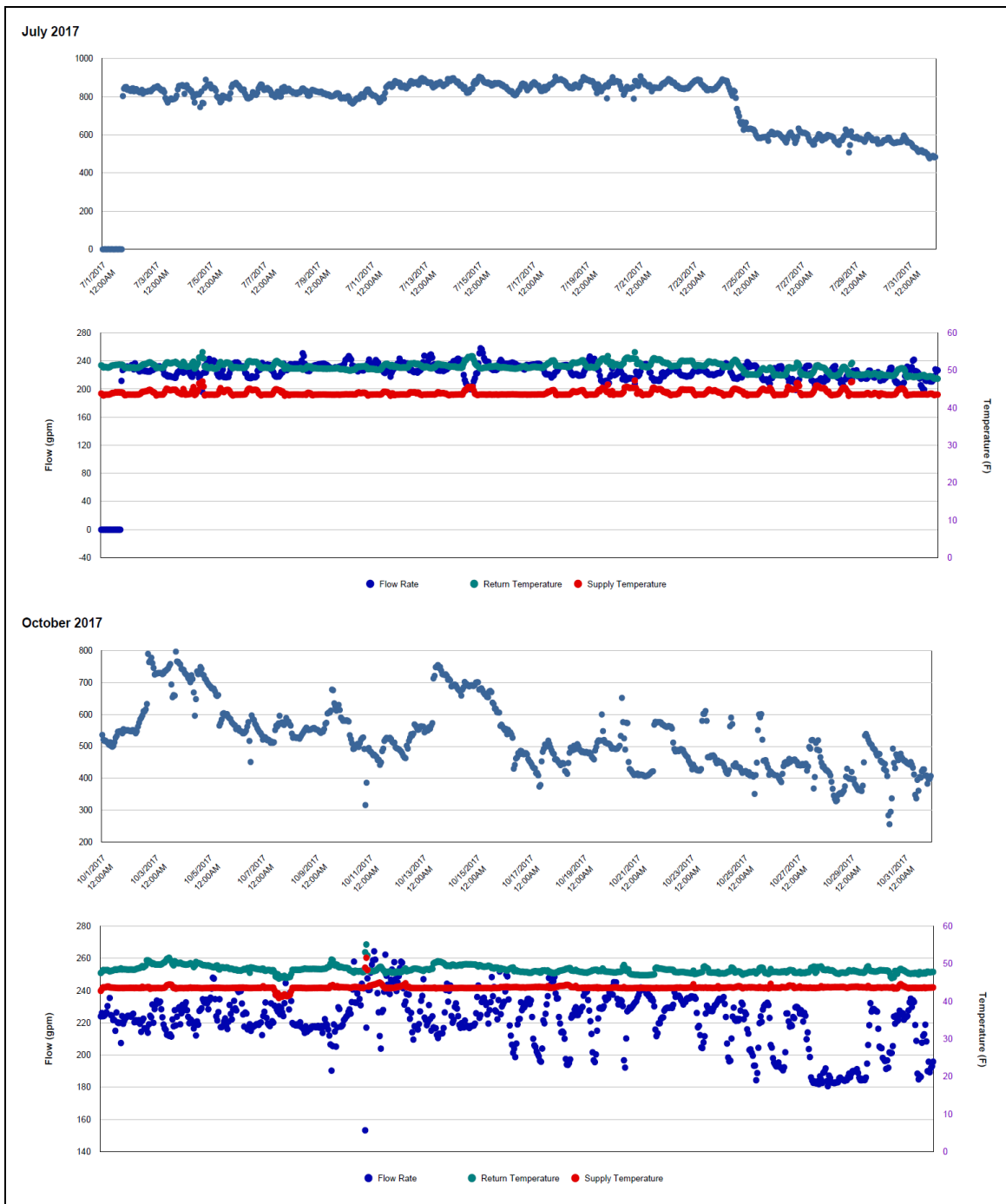
From 7/24/2017 – 9/17/2017 and starting again on 9/28/2017, the CHW return temperature decreased resulting in a scattered consumption pattern with a reduction by as much as 180 Btu/day/ft<sup>2</sup> when compared to July 2016 (up to 50% lower). The CHW consumption was estimated by model for this month.

The HHW consumption decreased starting 7/24/2017 and continues. From 7/24/2017 to 9/11/2017, the HHW flow rate appears to decrease to zero or near zero values and then returns on 9/12/2017. After the flow rate increased, the Delta-T then decreased from 9/11/2017 – 9/18/2017. Then on 9/18/2017, the flow rate decreased again but the Delta-T increased. However, with the increase in Delta-T, the overall consumption is lower than the previous year pattern by 70 – 80 Btu/day/ft<sup>2</sup>. The HHW consumption was estimated by model for this month.

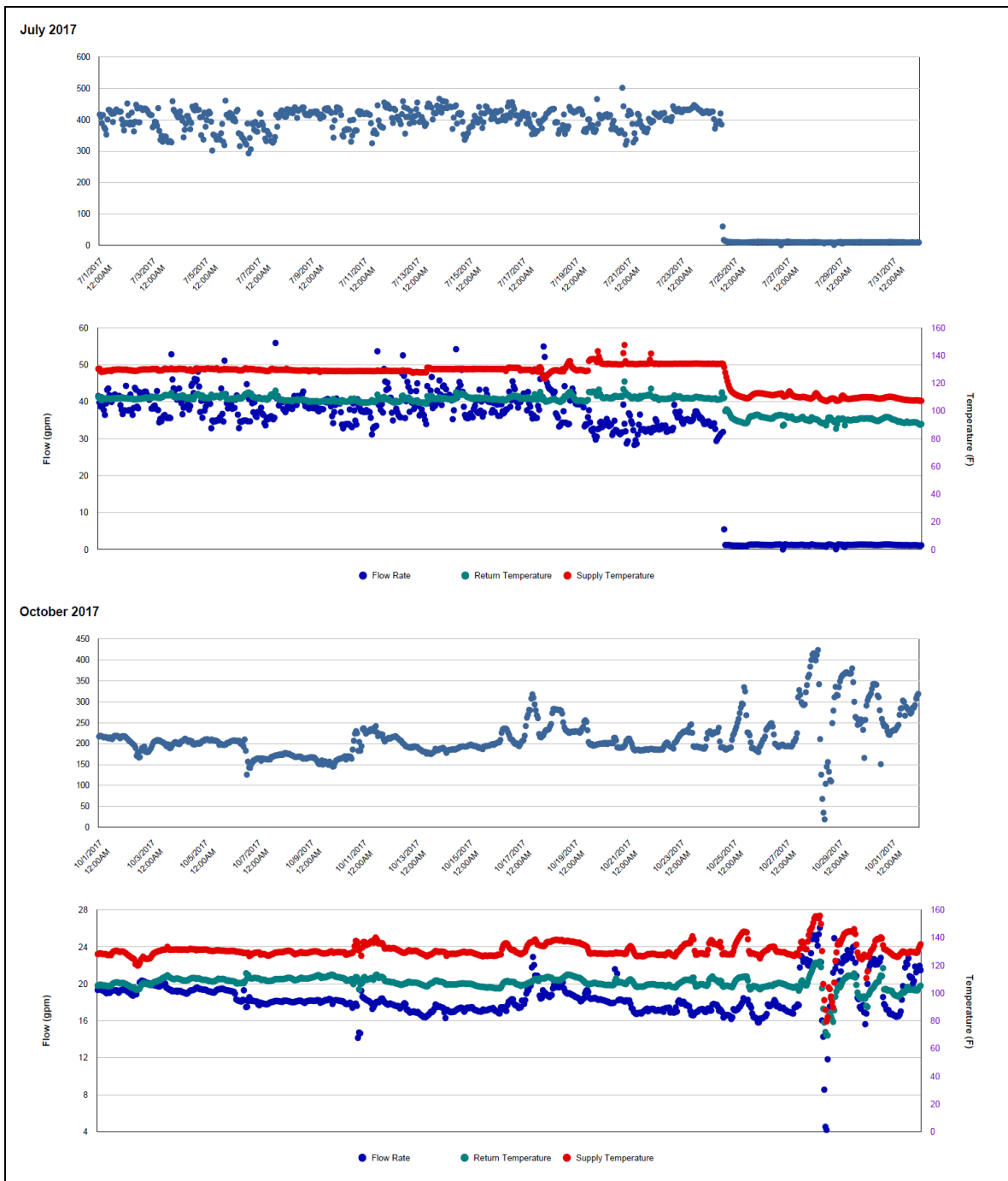
***Explanatory Figure: 13 months energy balance plot with original data***



***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during July 2017 (top) and October 2017 (bottom))***

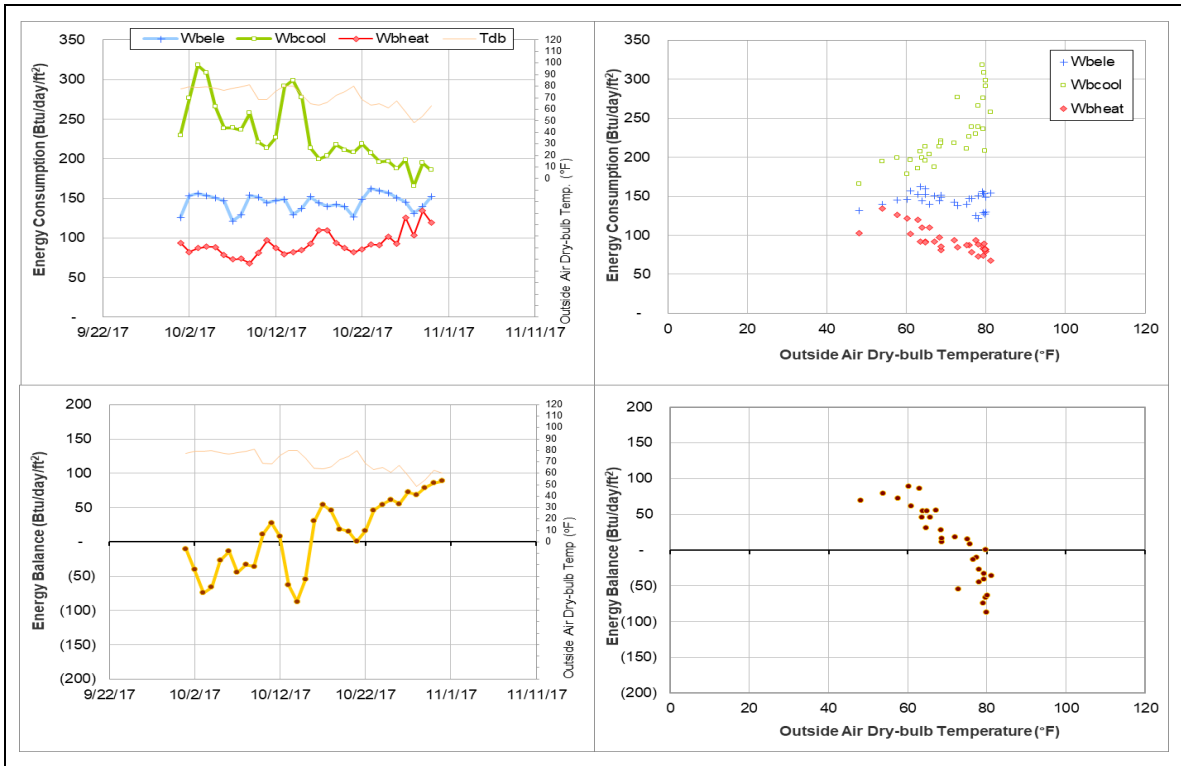


**Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during July 2017 (top) and October 2017 (bottom))**

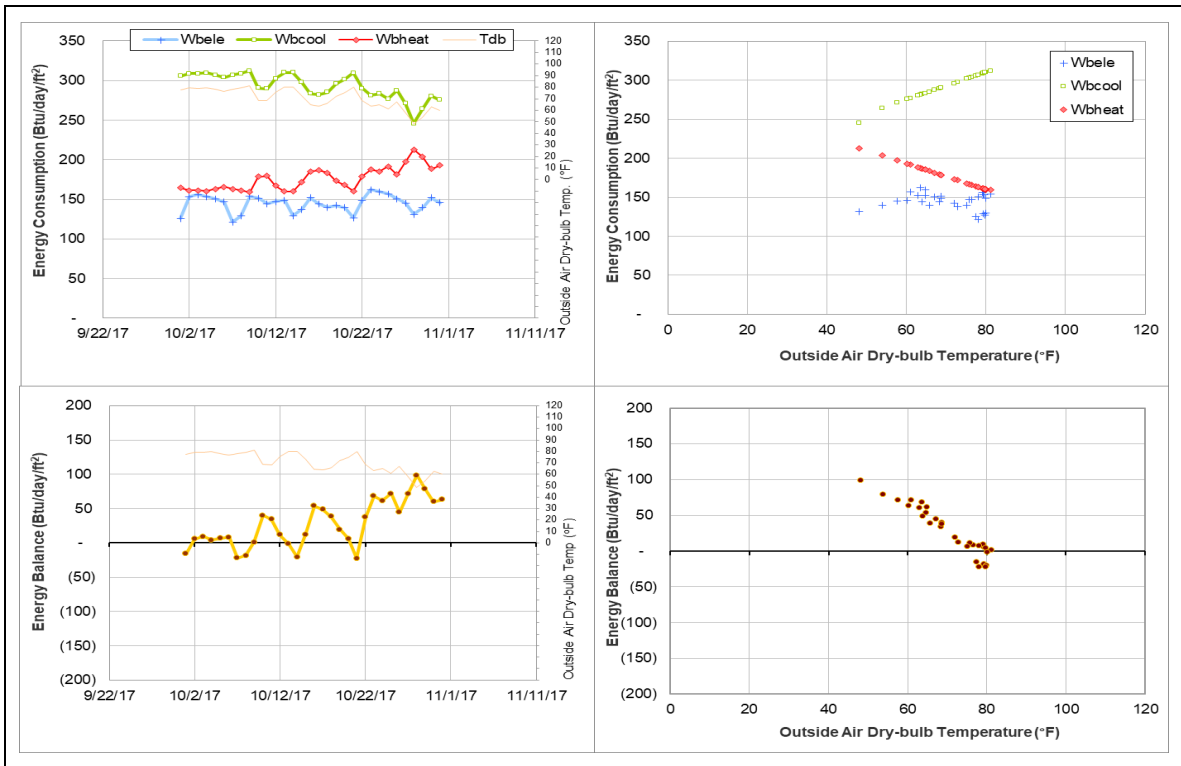




*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Biological Sciences Building - East (TAMU Bldg #467)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003851	31	10/1/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	8/6/2016 – Ongoing

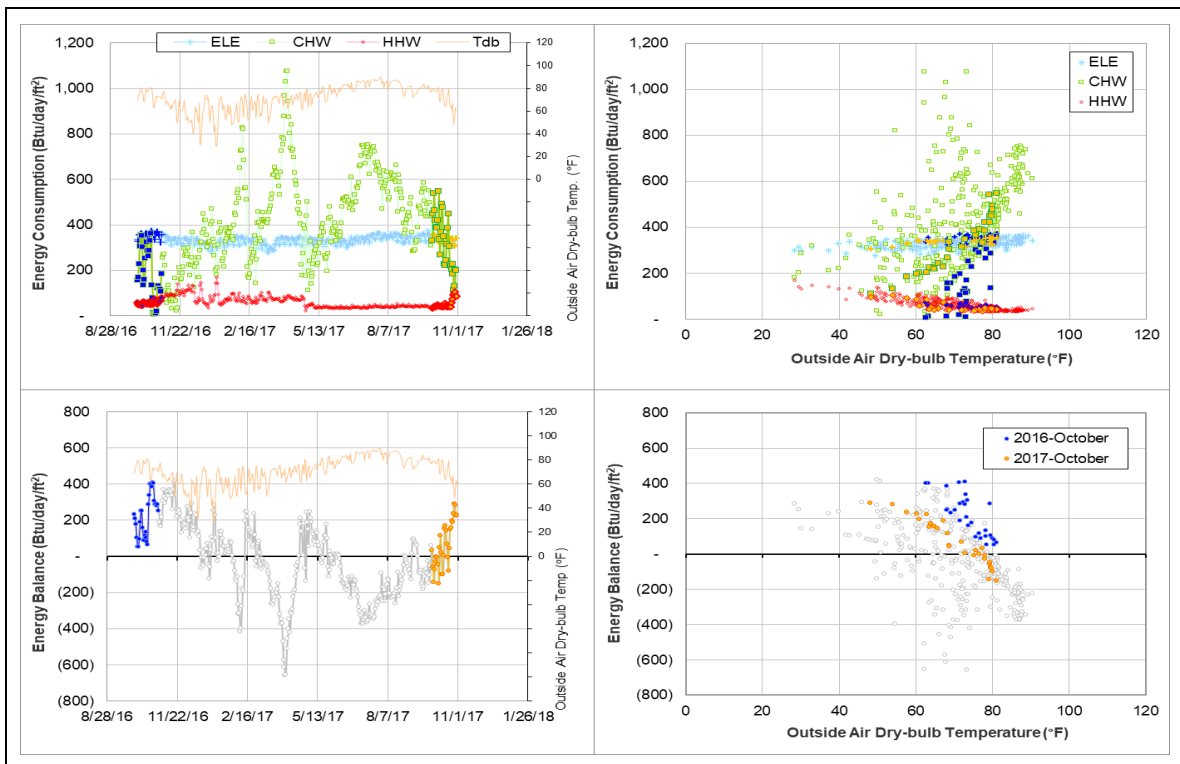
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003851	8/6/2016 – Ongoing	Supply Temperature	Faulty

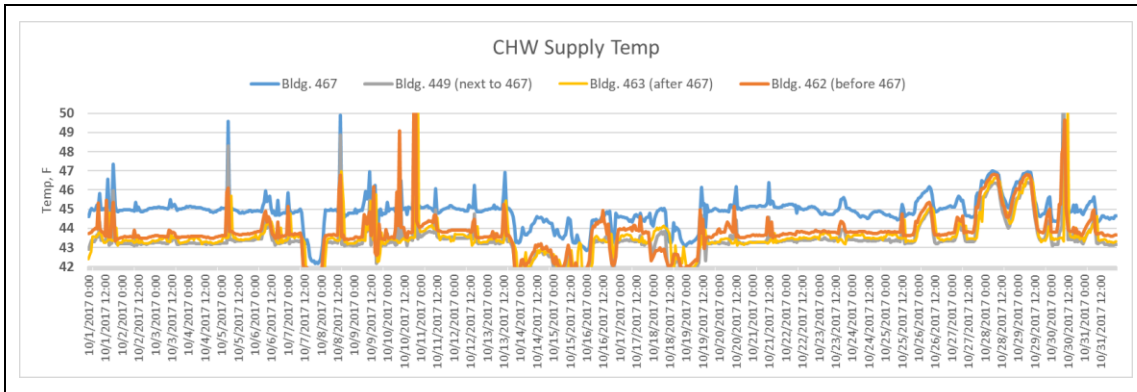
### Quantitative descriptions and comments

The CHW supply temp readings for this building started to decrease on 8/6/2016 while all adjacent buildings have stable supply temperature at around 42°F. The supply temperature had a period of obviously erroneous values of 20°F during 9/10 – 9/20/2016, and then increased to 45°F range. The explanatory figure below shows the supply temperature for Bldg. #467 and the surrounding Bldgs. #462, #449, and #463. The temperature sensor for Bldg. #467 shows to be almost two degrees higher than its neighboring buildings. The CHW consumption was estimated by model for this month.

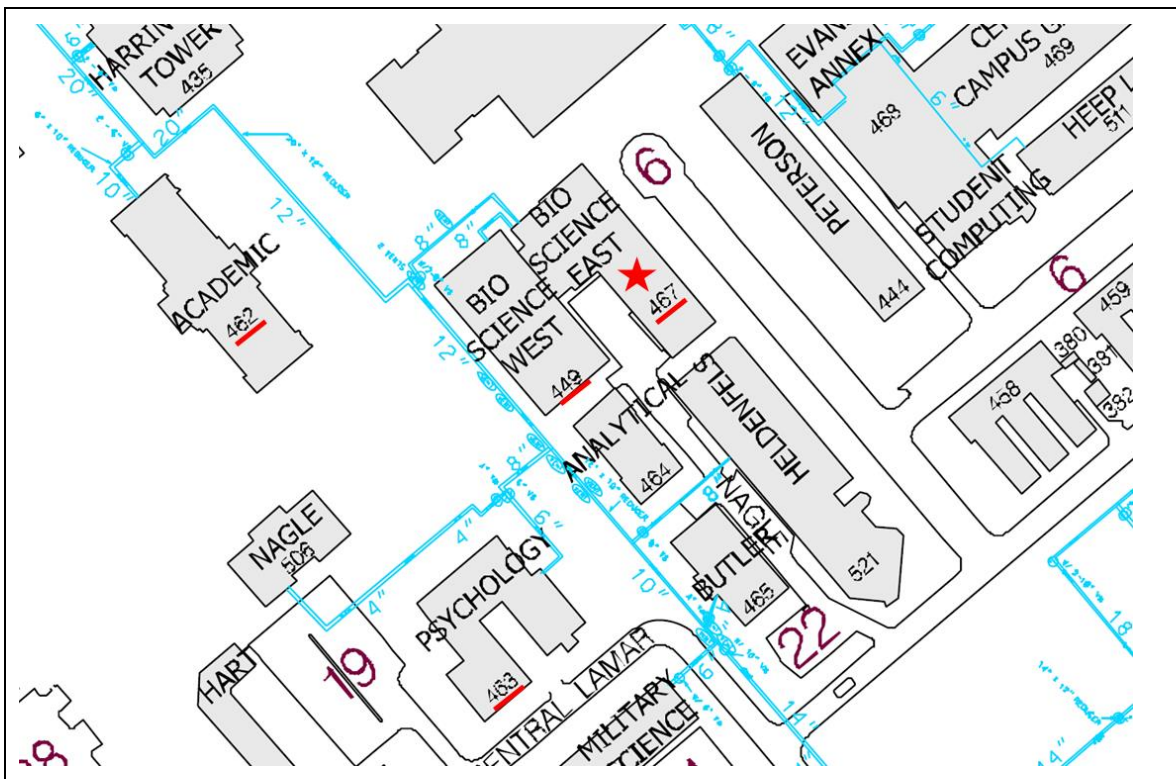
### Explanatory Figure: 13 months energy balance plot with original data



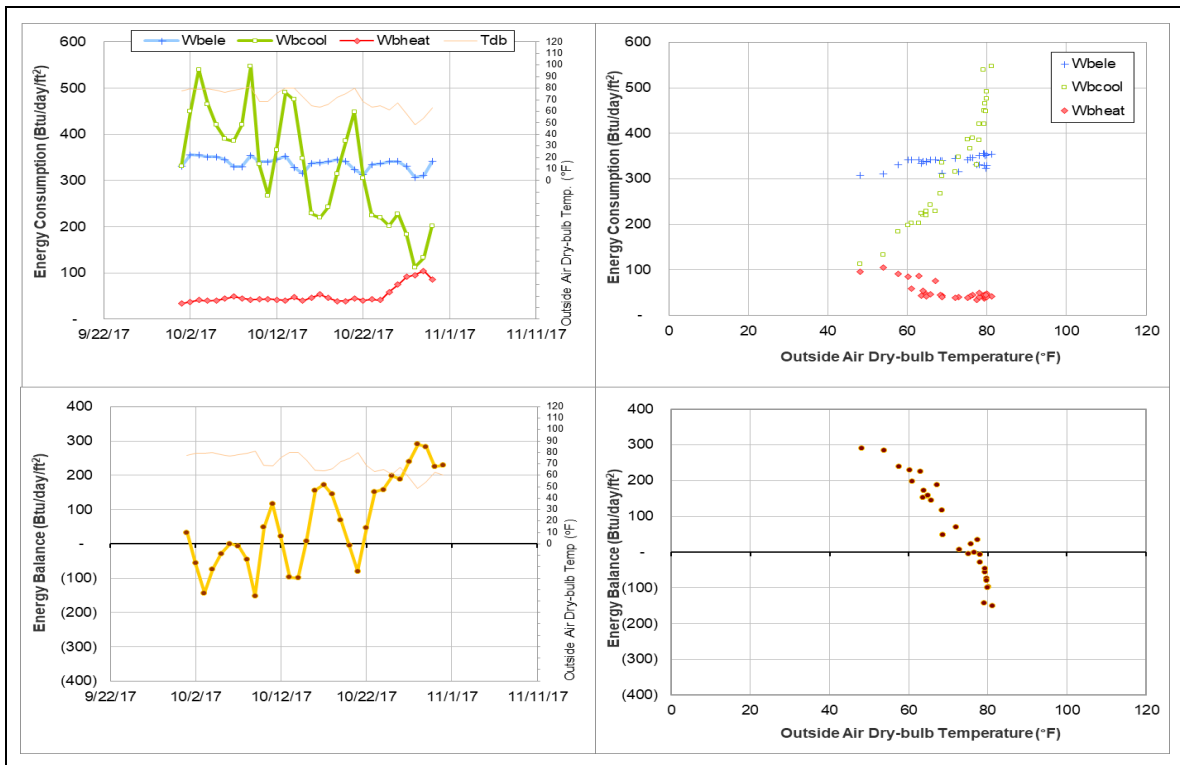
**Explanatory Figure: Time series plot of hourly average CHW supply temperature for Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology. (October 2017)**



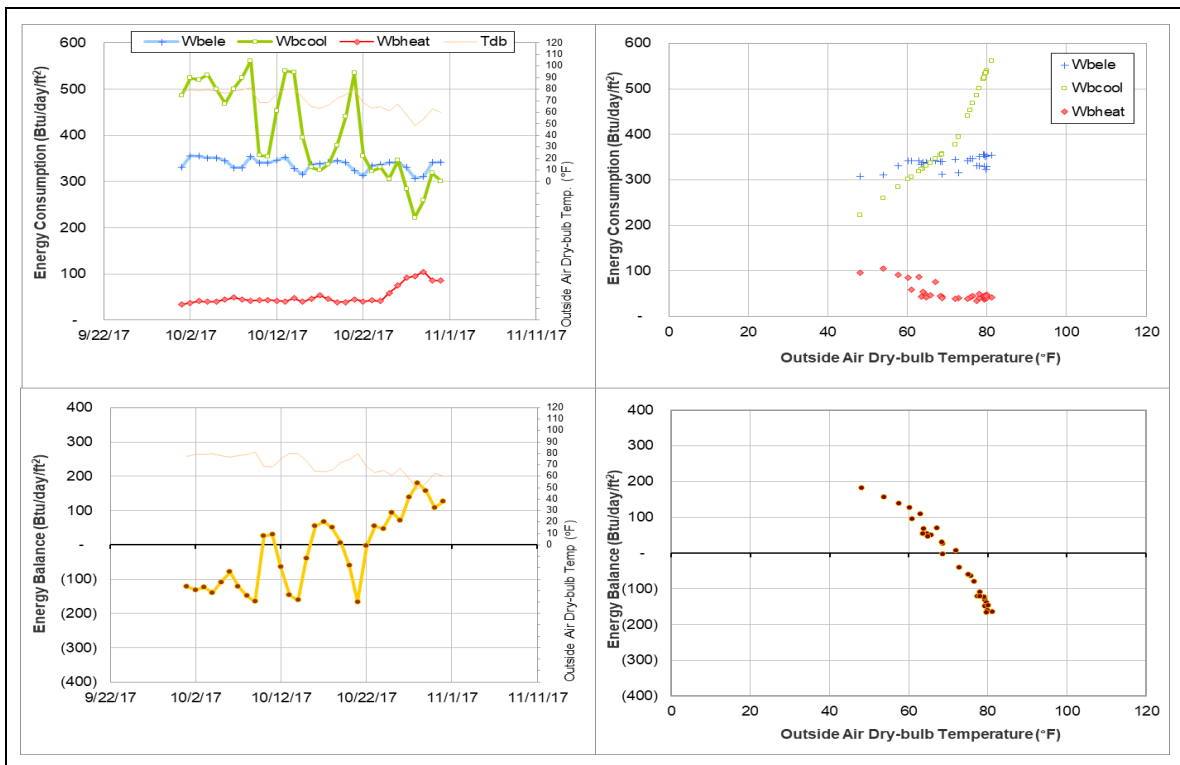
**Explanatory Figure: CHW distribution with Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology highlighted.**



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Evans Library (TAMU Bldg #468)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	003712	31	10/1/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW #003712	The consumption level has increased suddenly.	9/5/2017 – Ongoing

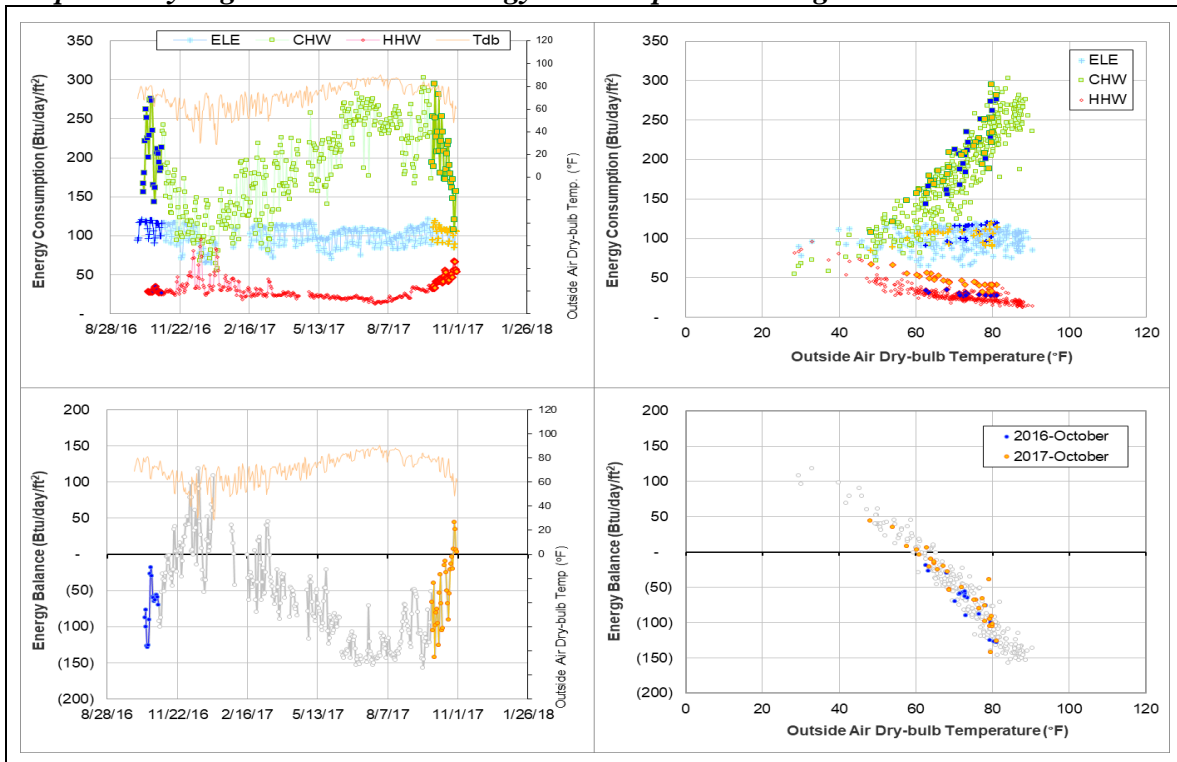
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	003712	9/5/2017 – Ongoing	Flow rate	Increased

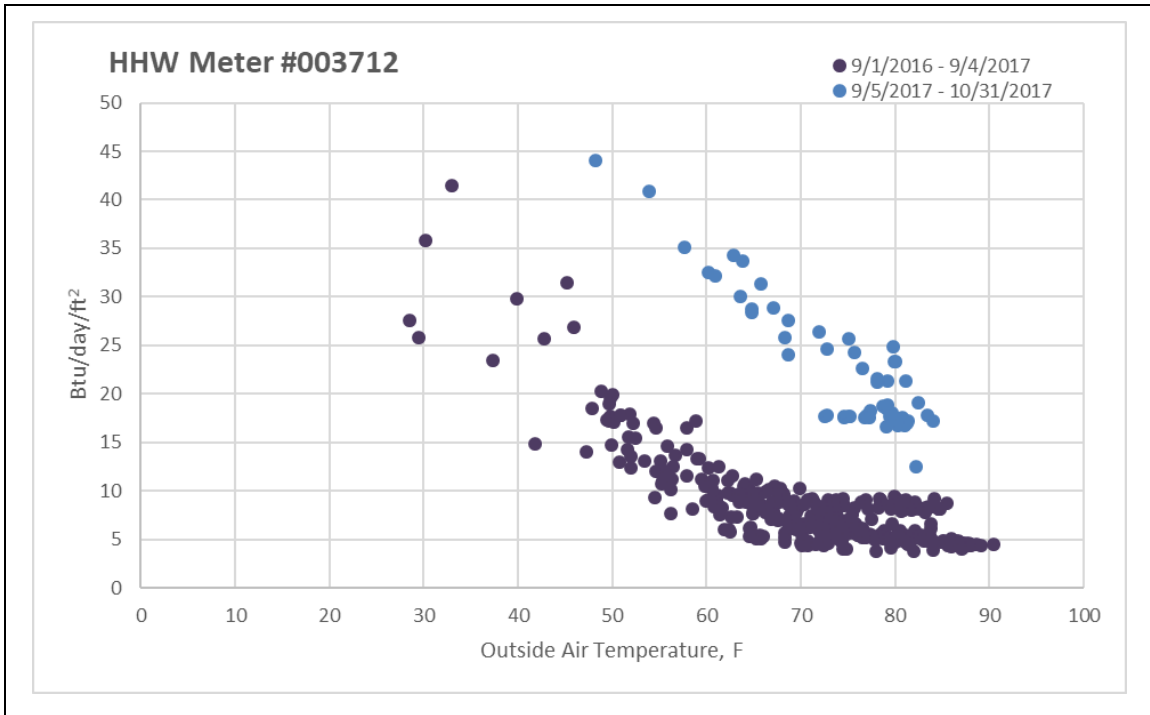
### Quantitative descriptions and comments

Evans Library has five HHW meters. Starting 9/5/2017, HHW meter #003712 experienced an increase in flow rate from about 15 gpm to 50-60 gpm. This caused consumption level to increase three times larger than the normal pattern (an overall increase of 8 mmBtu/day). In August 2017, before the increase, HHW meter #003217 accounted for only 26% of the total HHW consumption. Now, in October 2017, it accounts for 58% of the total. The HHW consumption for this meter was estimated by model for this month.

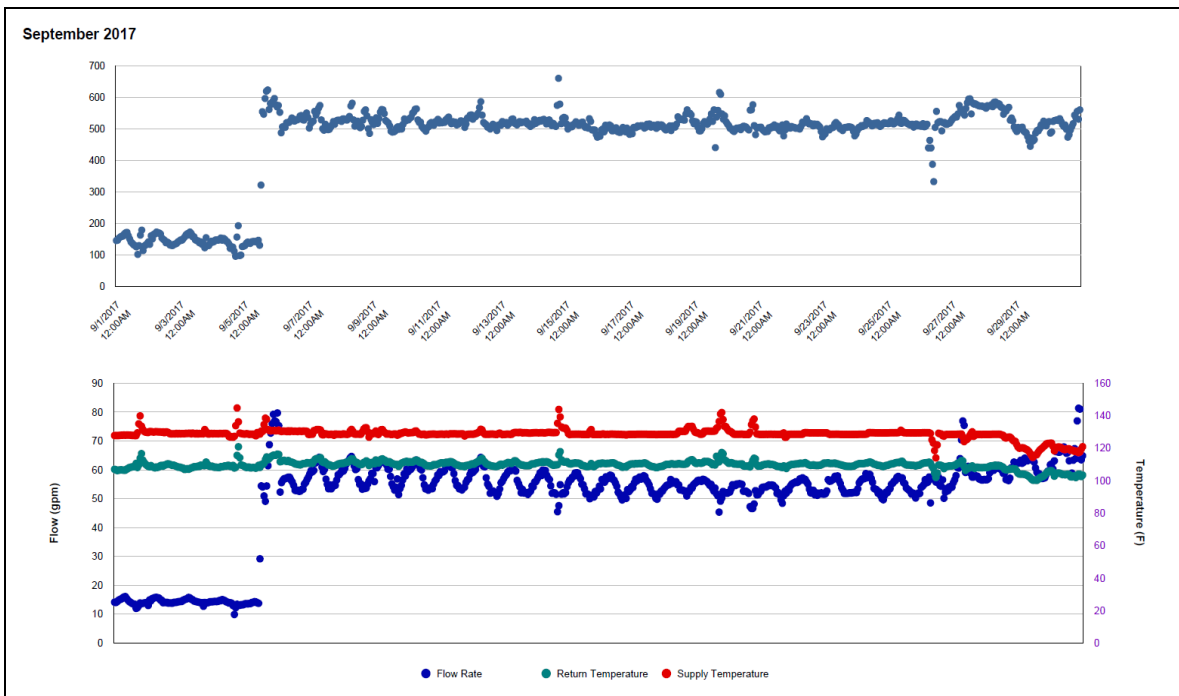
### Explanatory Figure: 13 months energy balance plot with original data



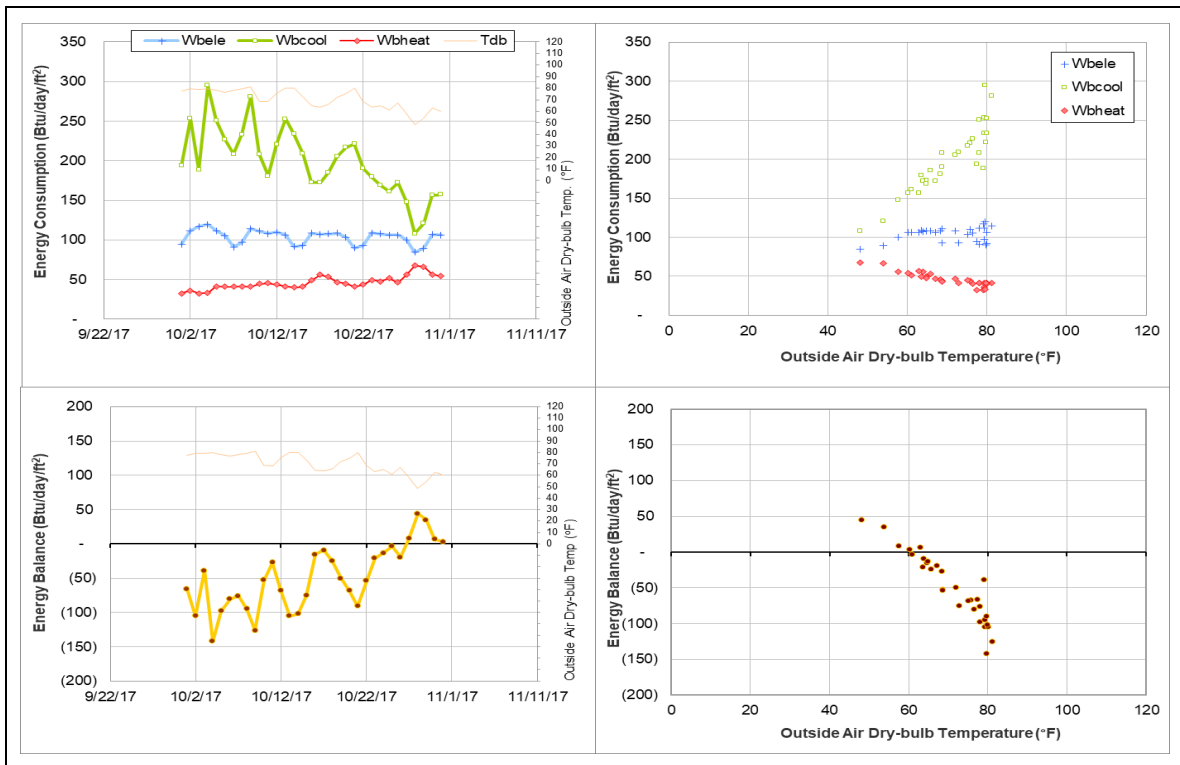
**Explanatory Figure: Scatter plot of HHW Meter #003712 versus outside air temperature showing the pattern before and after 9/5/2017.**



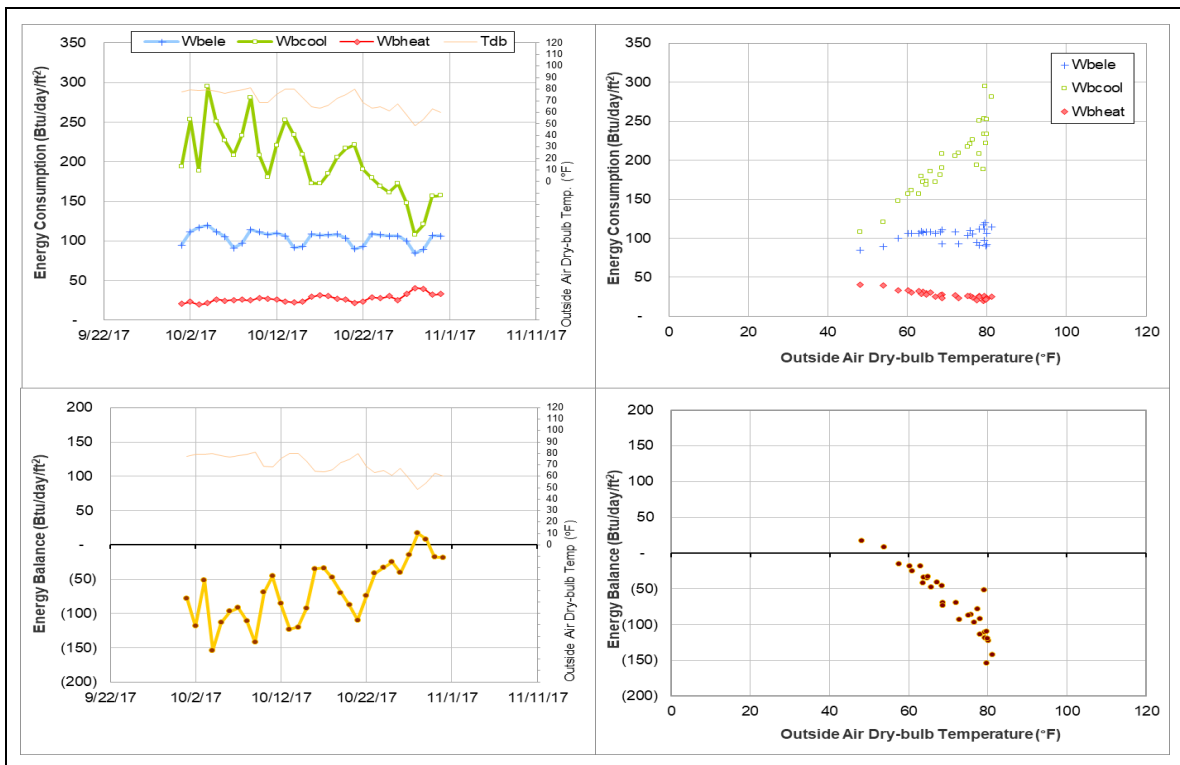
**Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter #003712 during September 2017)**



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*





## Francis Hall (TAMU Bldg #476)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	008033	2	10/7/2017 – 10/8/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption dropped for a short period.	10/7/2017 – 10/8/2017

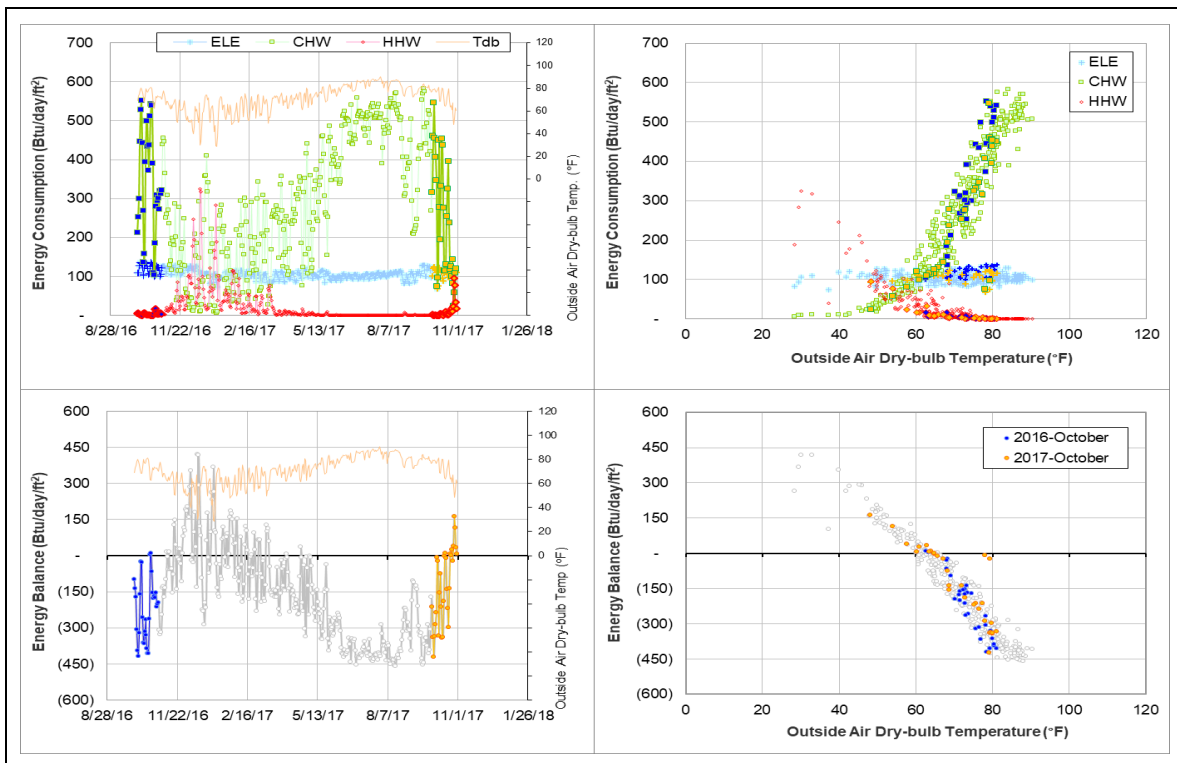
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	008033	10/7/2017 – 10/8/2017	Flow Rate	Decreased
			Return Temp	Increased

### Quantitative descriptions and comments

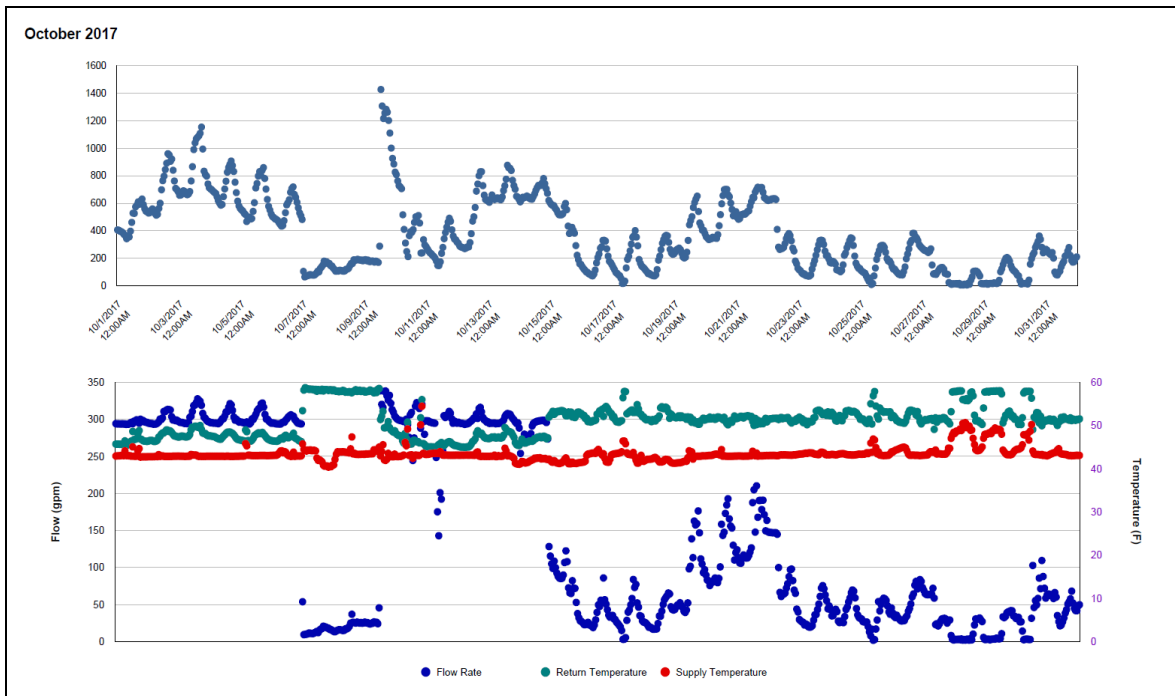
For 10/7/2017 – 10/8/2017, the CHW flow rate decreased from 300 gpm to below 50 gpm and the return temperature increased by 10°F. This decreased CHW consumption by 250 Btu/day/ft<sup>2</sup>. The CHW consumption was estimated by model for this period.

### Explanatory Figure: 13 months energy balance plot with original data

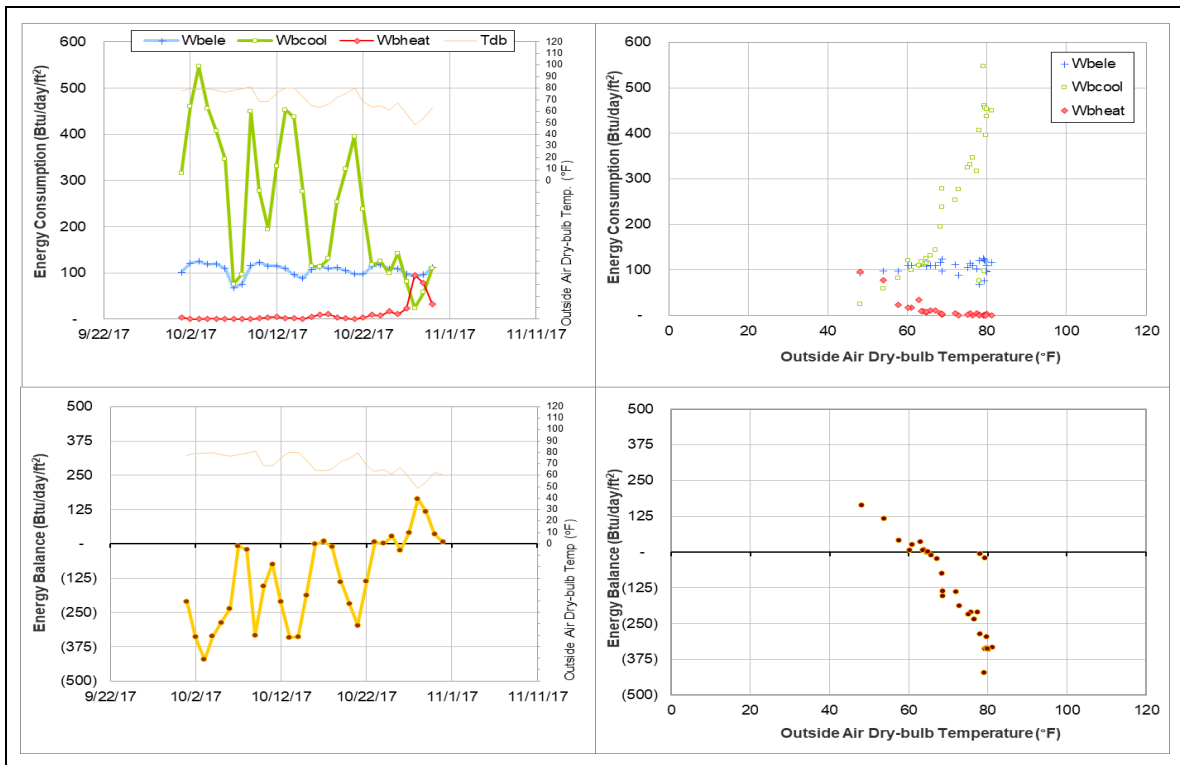




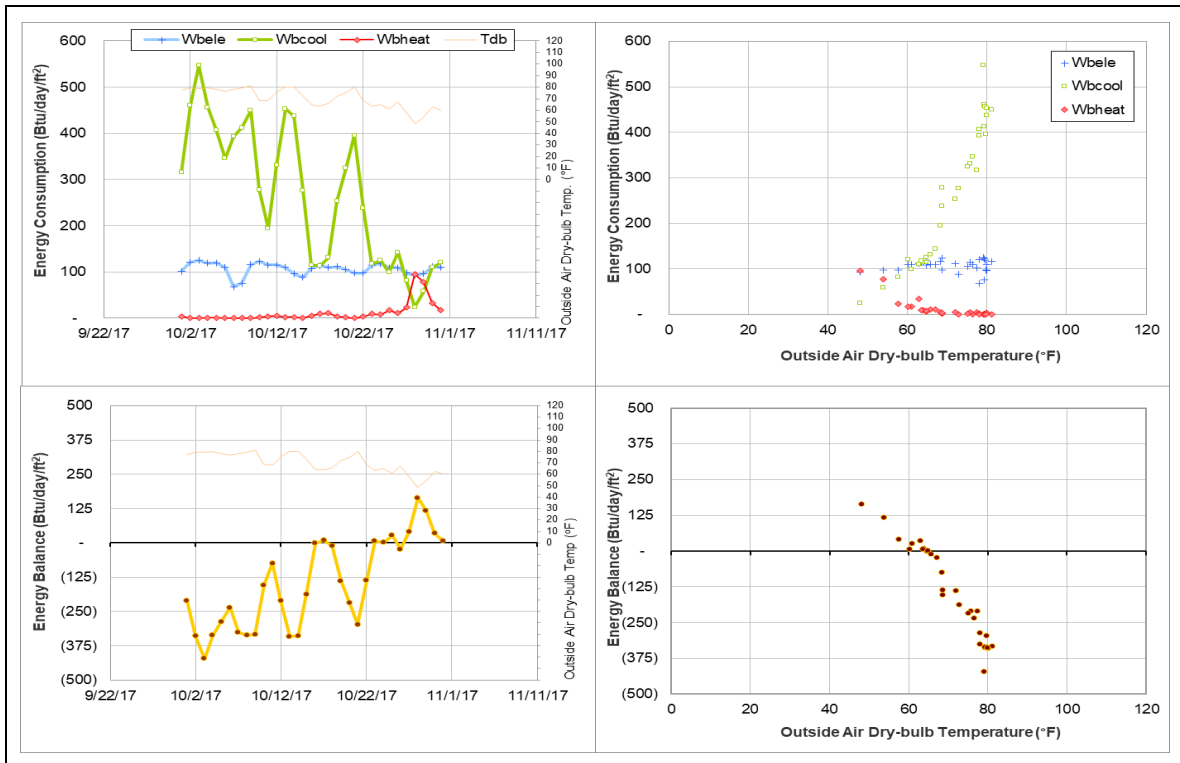
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during October 2017)***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Anthropology Building (TAMU Bldg #477)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003664	31	10/1/2017 – 10/31/2017	Model
HHW	003668	31	10/1/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	9/27/2017 – Ongoing
HHW	The consumption level is higher than the level during the past year.	8/24/2017 – Ongoing

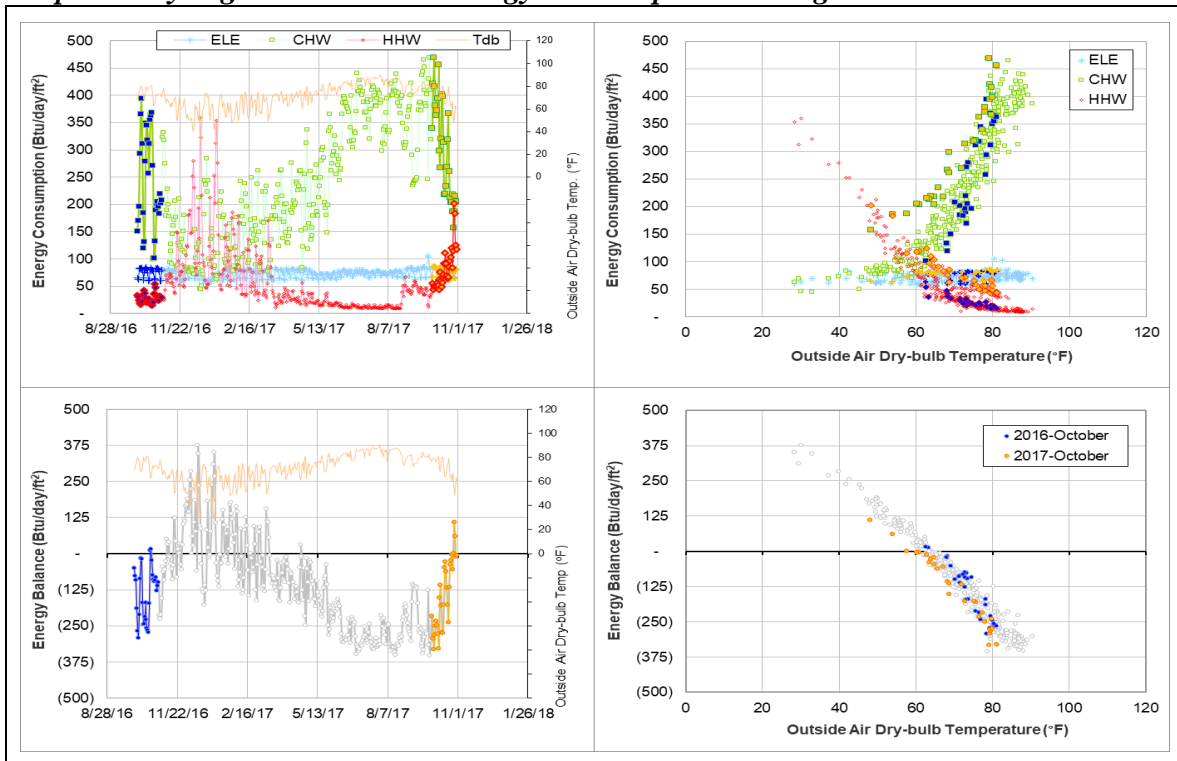
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003664	9/27/2017 – Ongoing	Flow Rate	Increased
HHW	003668	8/24/2017 – Ongoing	Delta-T	Increased

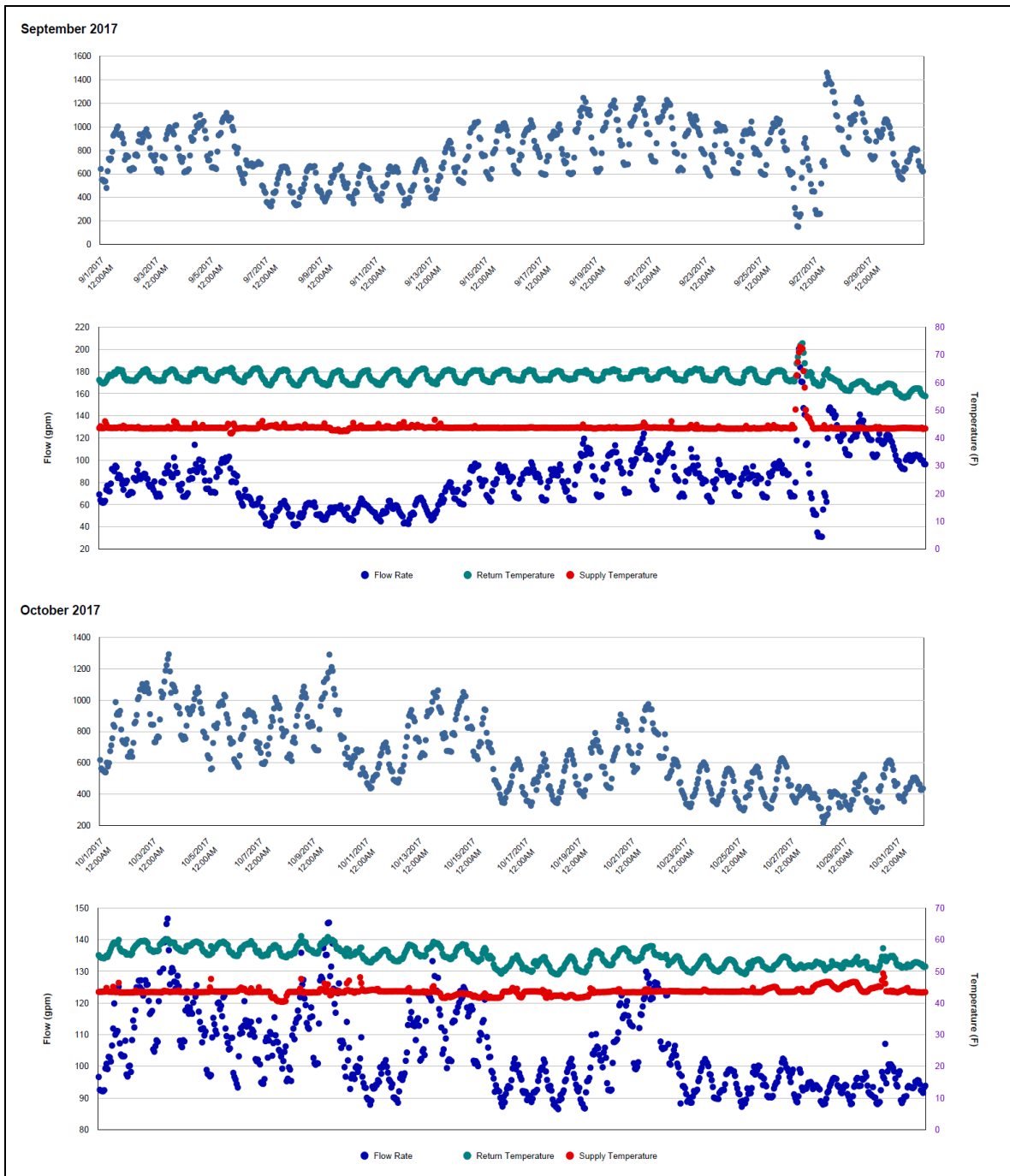
### Quantitative descriptions and comments

The CHW consumption pattern has increased starting 9/27/2017. The increase is about 40 Btu/day/ft<sup>2</sup> in the warmer temperatures and increases to about 80 Btu/day/ft<sup>2</sup> in the colder temperatures. This increase seems related to an increase in CHW flow rate. The CHW consumption was estimated by model for the month. The HHW consumption pattern also increased starting 8/24/2017 by about 23 Btu/day/ft<sup>2</sup> (about 60%). It seems the HHW Delta-T increased around this time. The HHW consumption was estimated by model for the month.

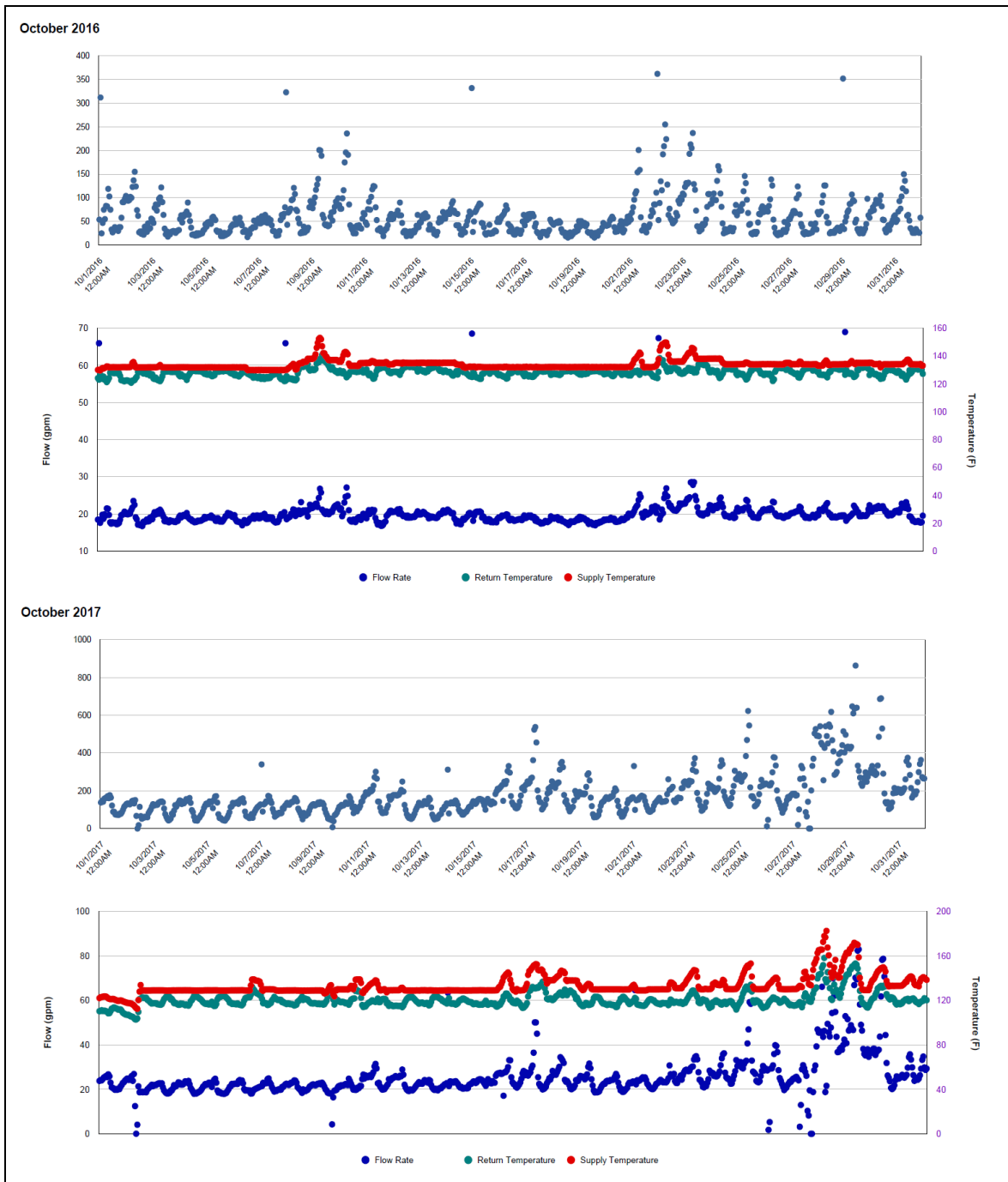
### Explanatory Figure: 13 months energy balance plot with original data



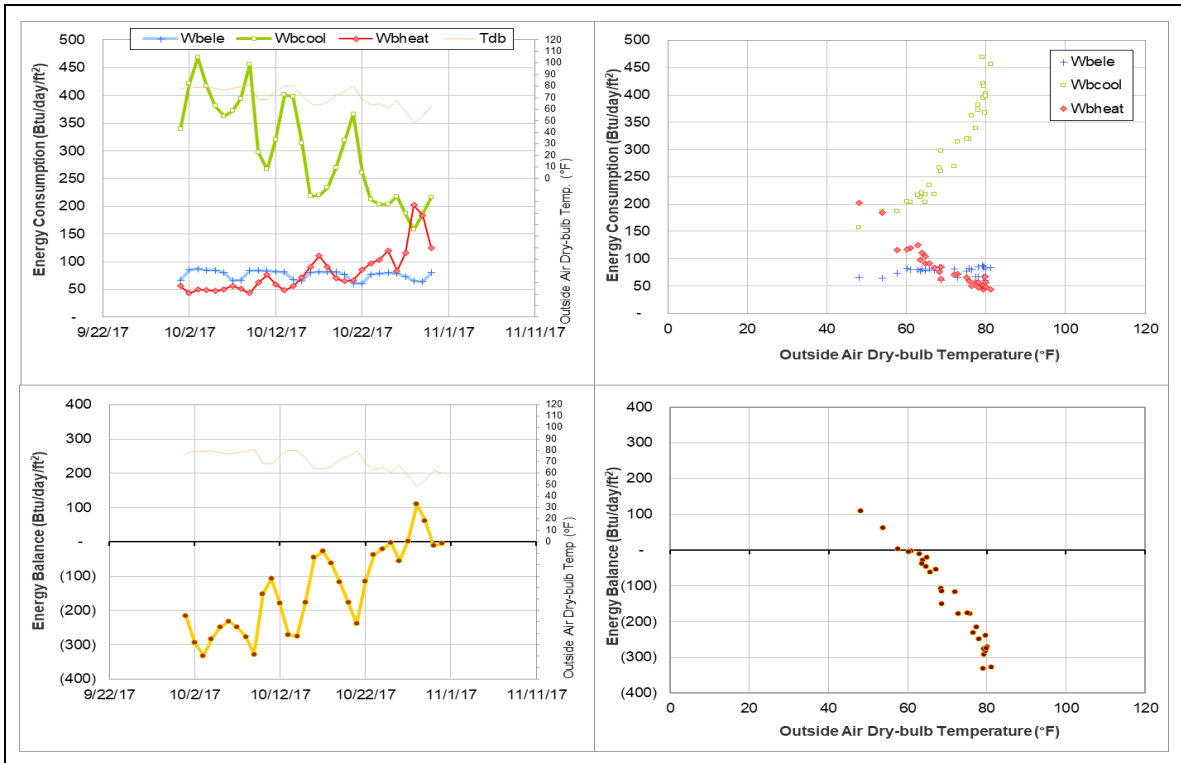
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during September 2017 (top) and October 2017 (bottom))*



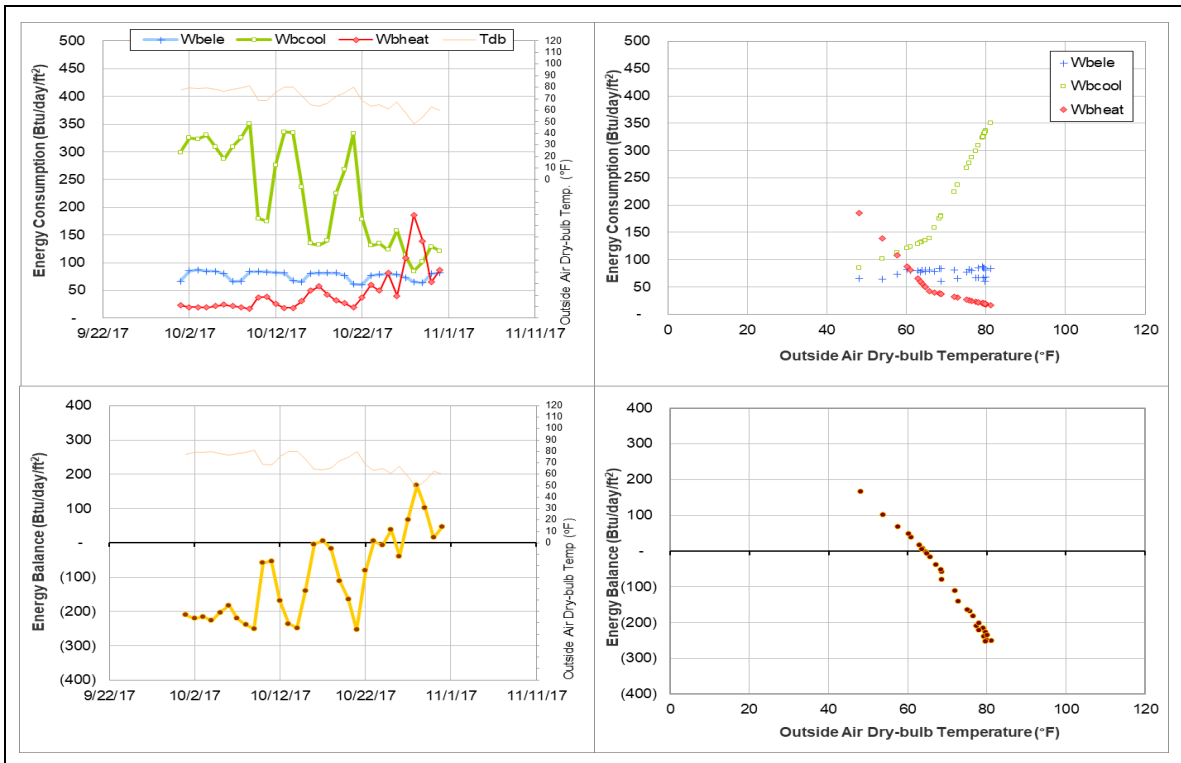
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during October 2016 (top) and October 2017 (bottom))*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Scoates Hall (TAMU Bldg # 478)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	007969	21	10/1/2017 – 10/21/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has increased suddenly.	10/1/2017 – 10/21/2017

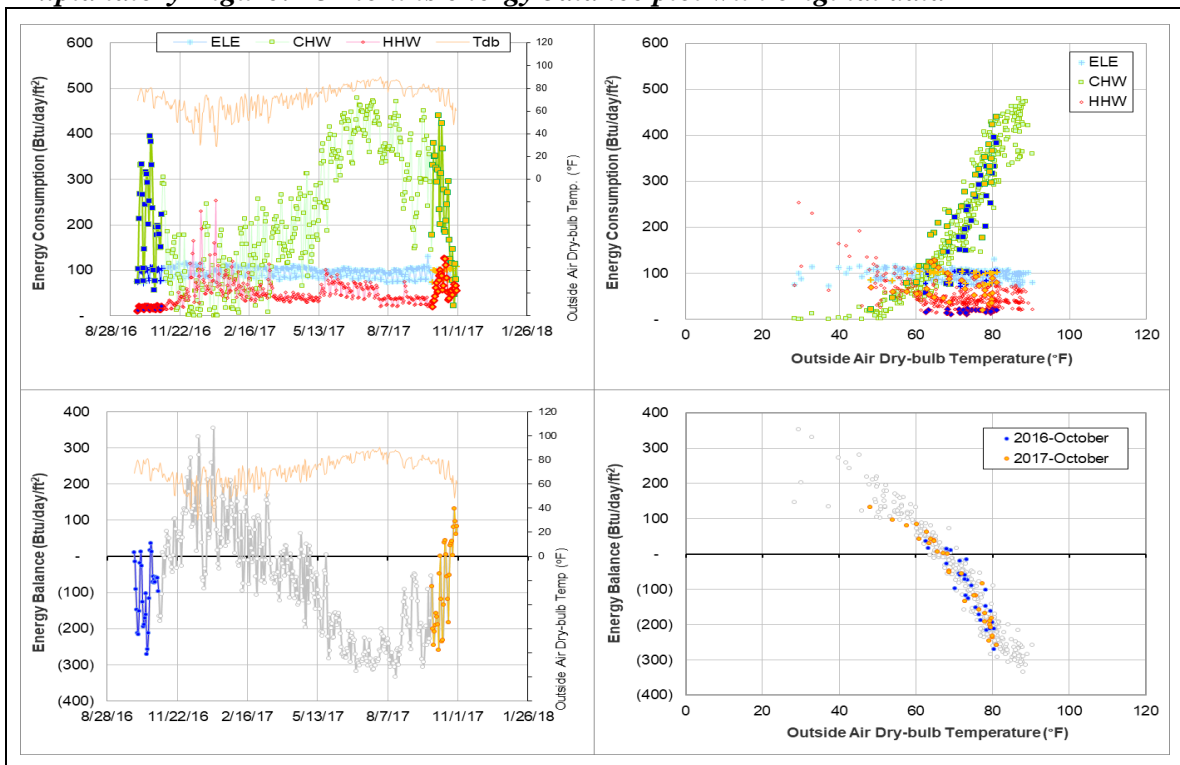
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	007969	10/1/2017 – 10/21/2017	Delta-T	Increased

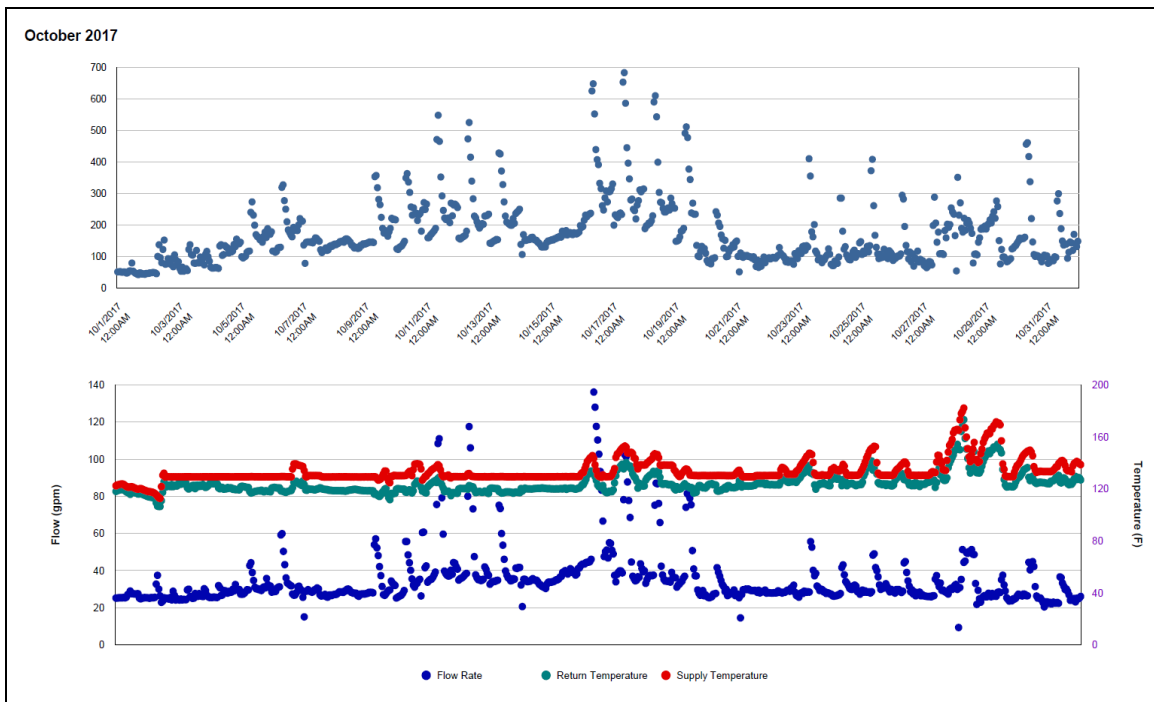
### Quantitative descriptions and comments

The HHW consumption pattern increased from 10/1/2017 – 10/21/2017 by 40 – 80 Btu/day/ft<sup>2</sup>. This increase seems related to an increase in Delta-T during the same time. The HHW consumption was estimated by model for this period.

### Explanatory Figure: 13 months energy balance plot with original data

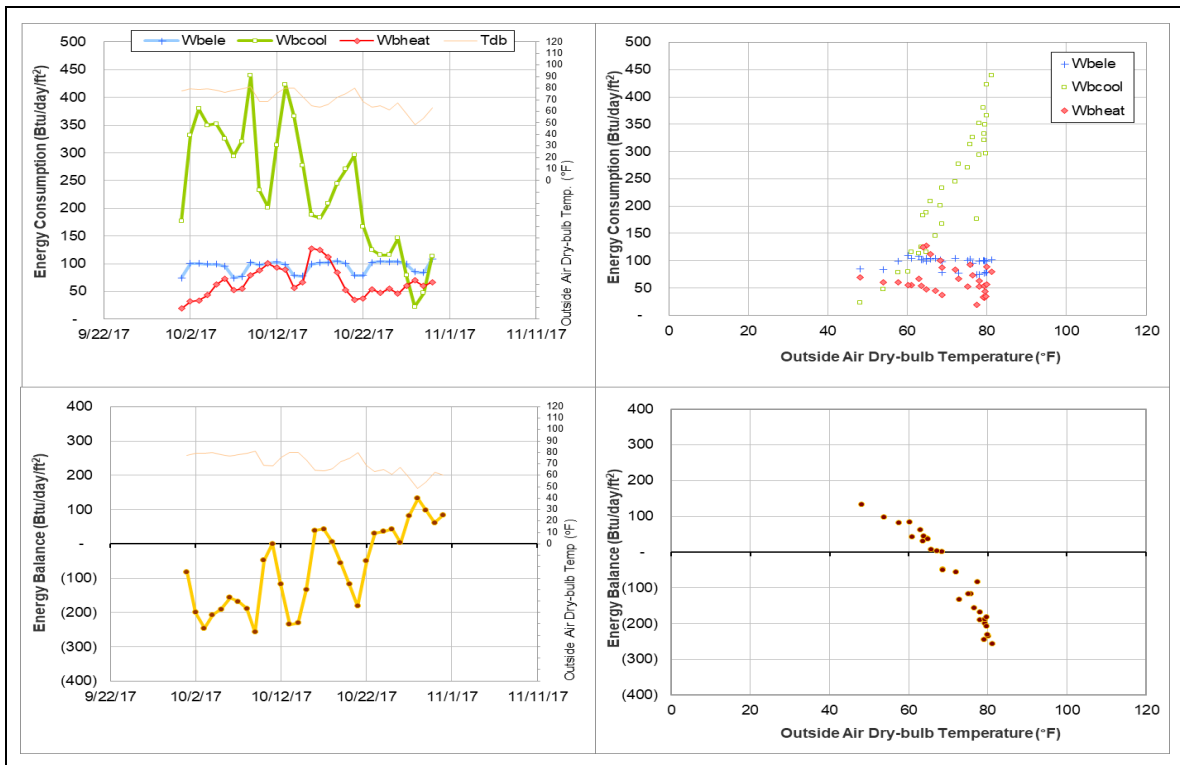


***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter #007969 during October 2017)***

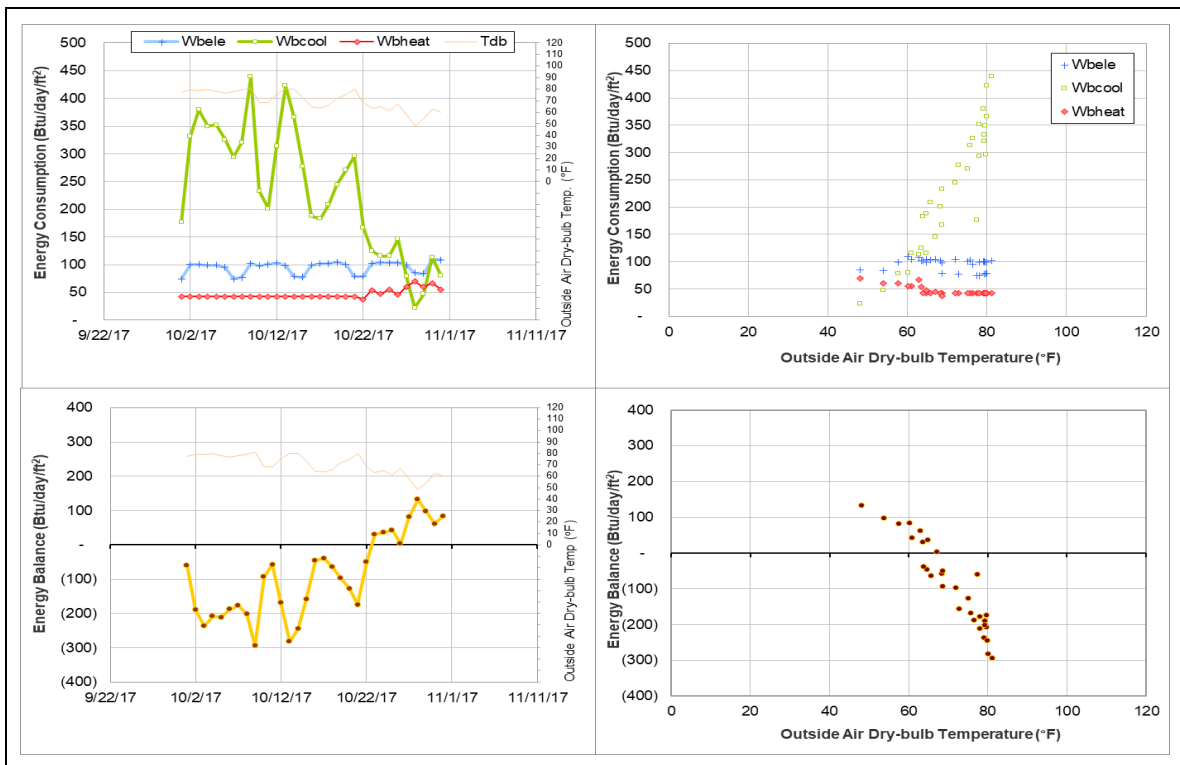




*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Nagle Hall (TAMU Bldg #506)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003619	9	10/1/2017 – 10/9/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level has decreased suddenly.	9/26/2017 – Ongoing

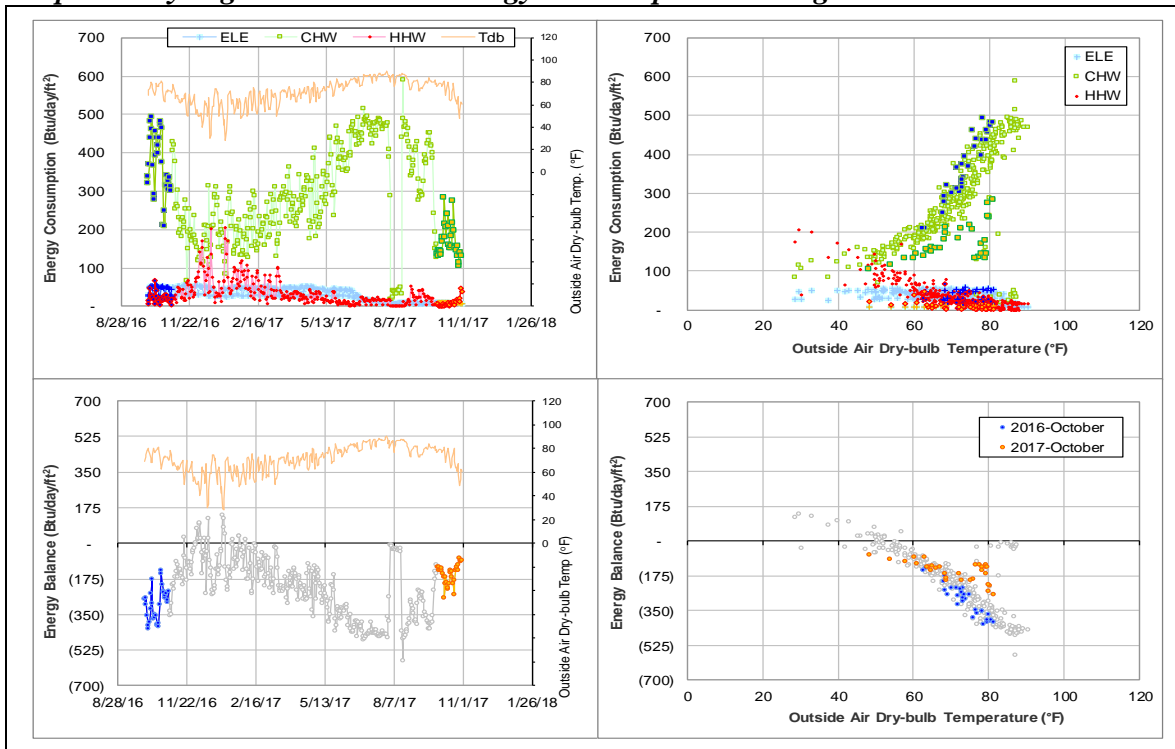
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003619	9/26/2017 – 10/9/2017	Flow Rate	Low

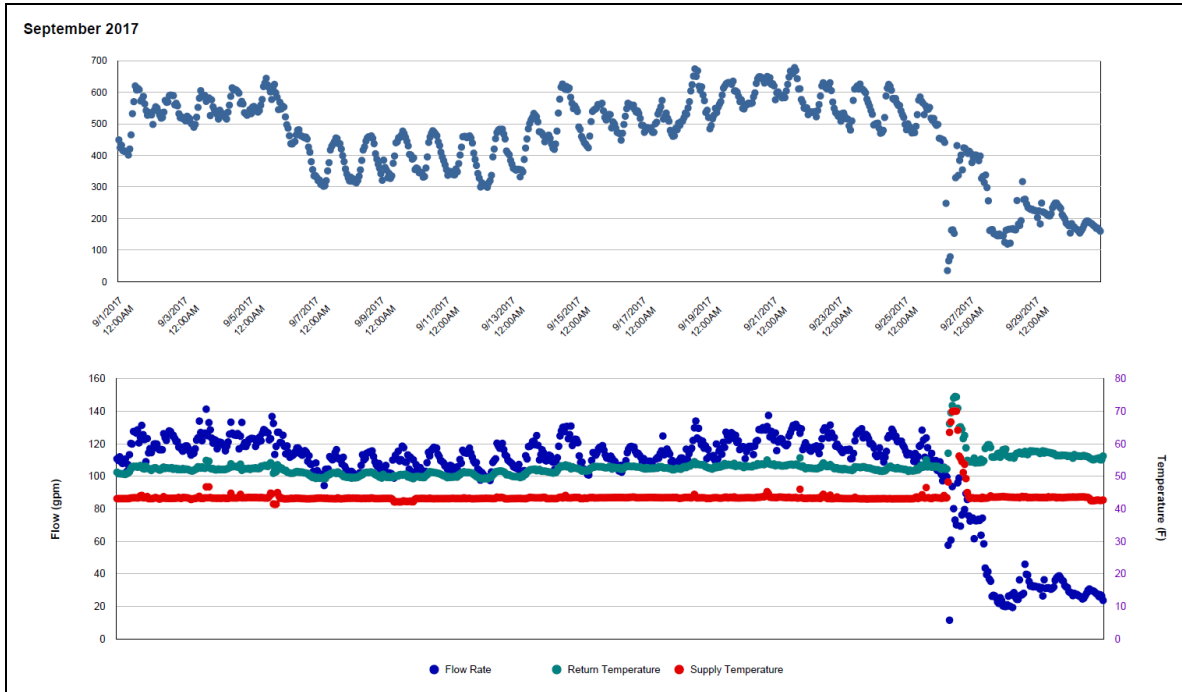
### Quantitative descriptions and comments

An incident of central plant outage on 9/26/2017 caused disturbance to this building and CHW of this building did not recover immediately after the incident was resolved. CHW flow rate decreased from 100 – 140 gpm to 20 – 40 gpm during the plant outage and remained low after the incident. The consumption then recovered to 80 – 120 gpm on 10/9/2017. The latter part is not suspected to be a continued problem. The affected days are estimated by model. See also II-3.

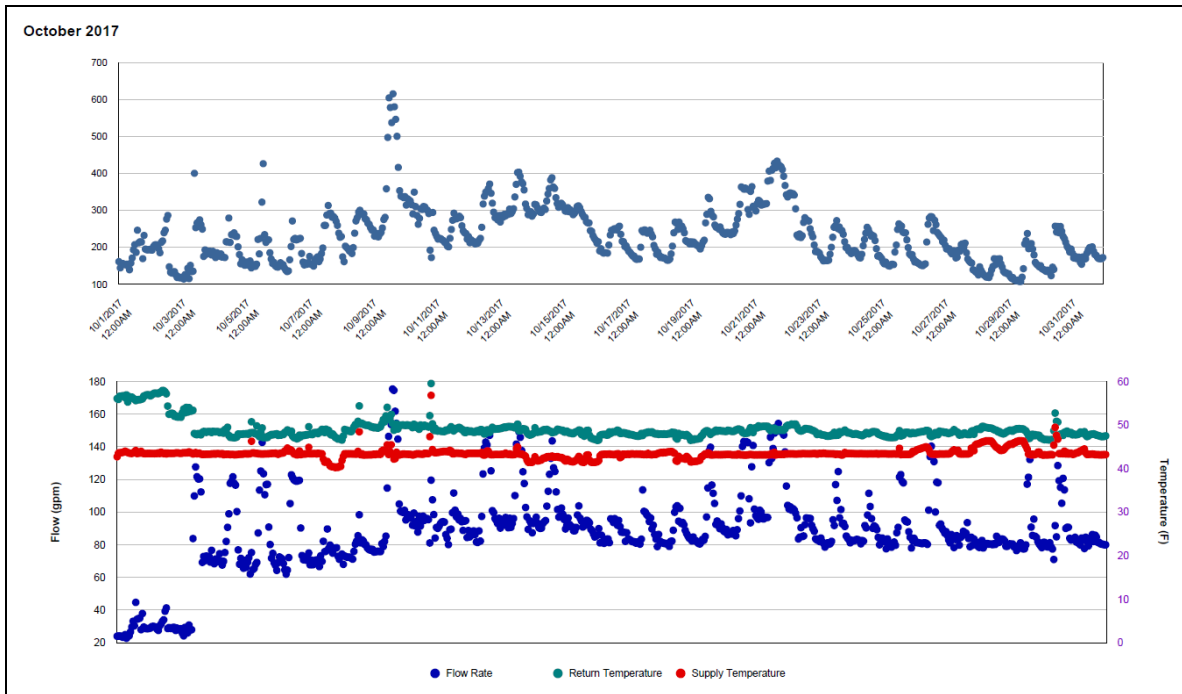
### Explanatory Figure: 13 months energy balance plot with original data.



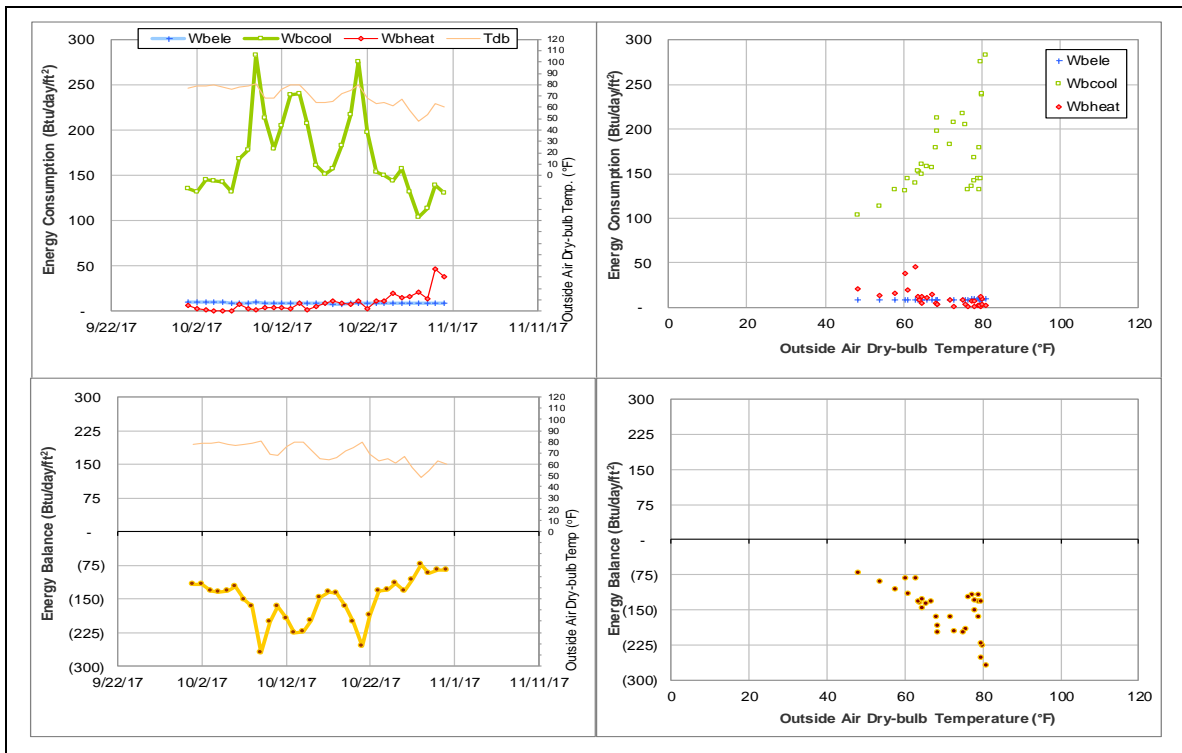
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)*



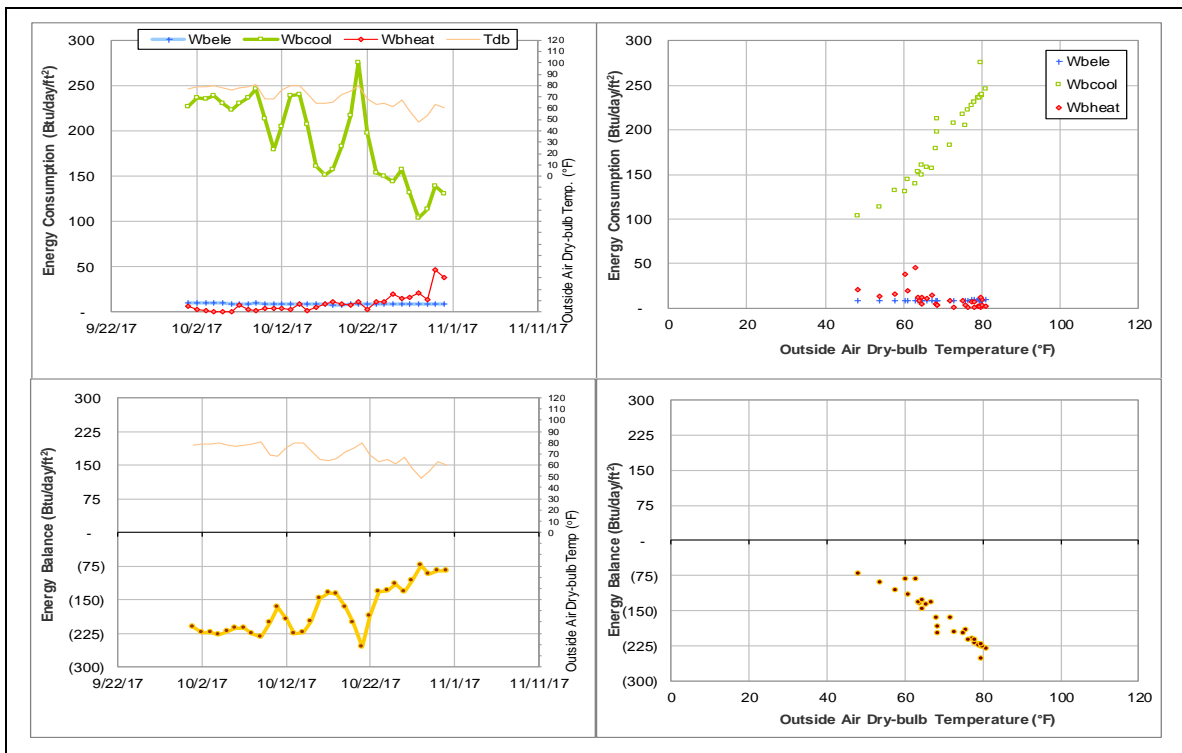
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Beutel Health Center (TAMU Bldg #520)

### *Estimated data*

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003933	31	10/1/2017 – 10/31/2017	Model
HHW	003944	26	10/1/2017 – 10/26/2017	Model

### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	6/1/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	9/25/2017 – 10/26/2017

### *Changes in sensor readings related to the detected issues*

Energy Type	Meter ID	Period	Type	Description
HHW	003944	9/25/2017 – 10/26/2017	Flow rate	High
			Return temp	High

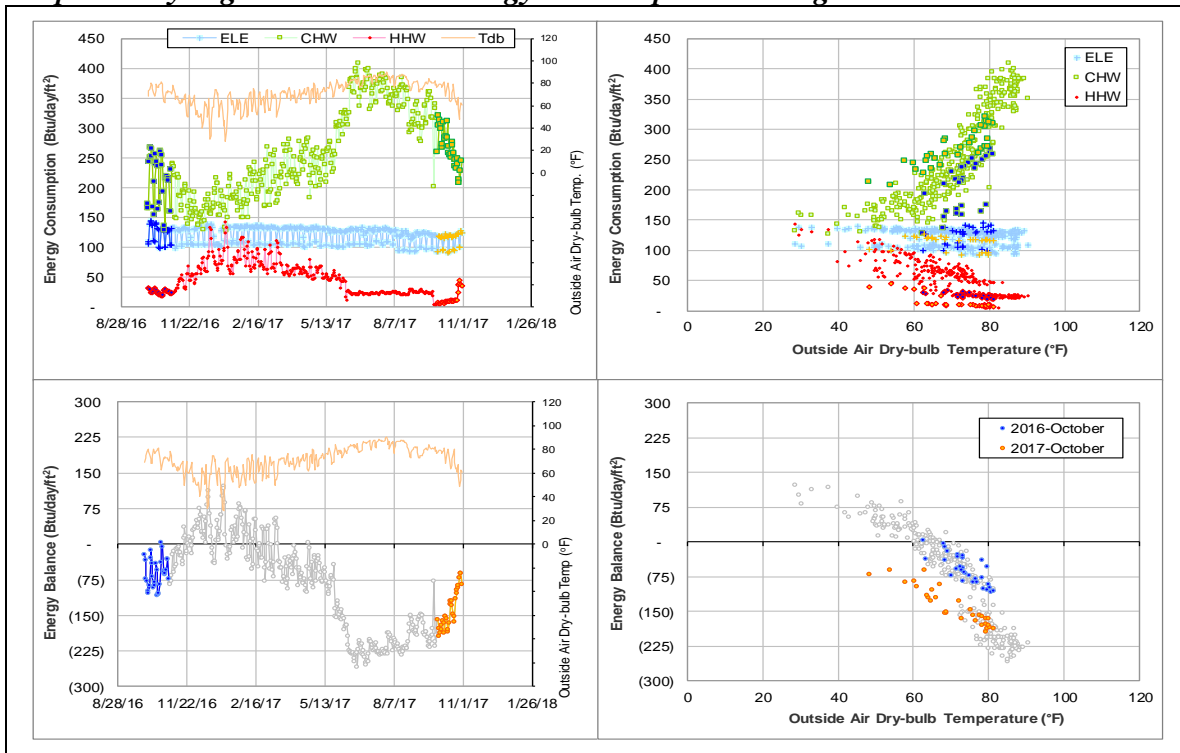
### *Quantitative descriptions and comments*

Since June 2017, CHW consumption increased to 50 – 100 Btu/day-ft<sup>2</sup> higher than the previous year. The consumption pattern of CHW no longer has a weekday/weekend difference. There is no obvious meter reading anomaly observed. The consumption of this month is estimated by model.

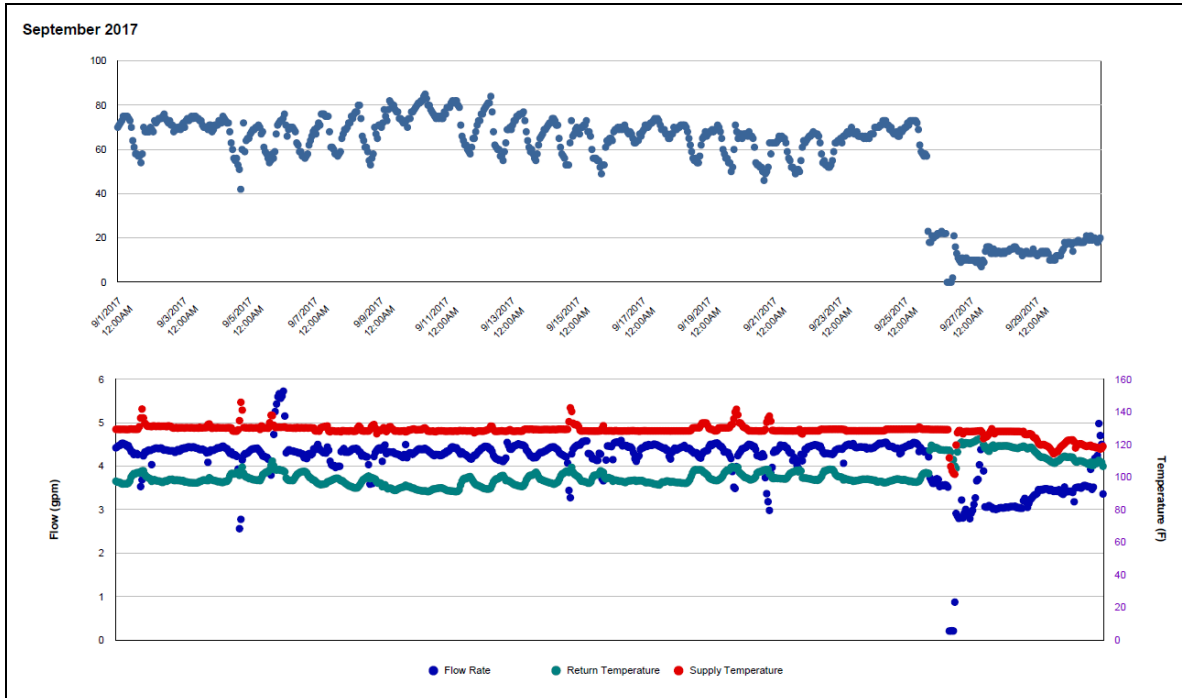
HHW flow rate decreased suddenly during 9/25/2017 – 10/26/2017 resulted in a period of very low consumption. Note that this sudden decrease occurred earlier than the plant outage on 9/26/2017. The flow rate and consumption recovered to the level before 9/25/2017. The consumption of the affected days are estimated by model.

See also II-3.

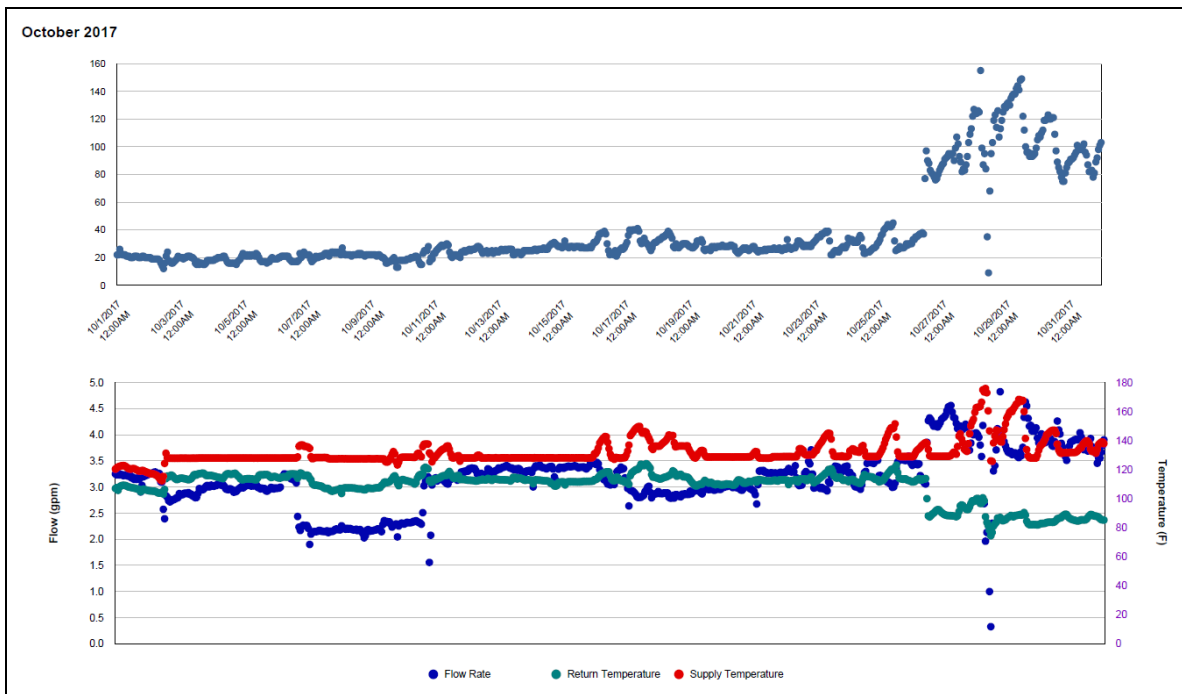
**Explanatory Figure: 13 months energy balance plot with original data.**



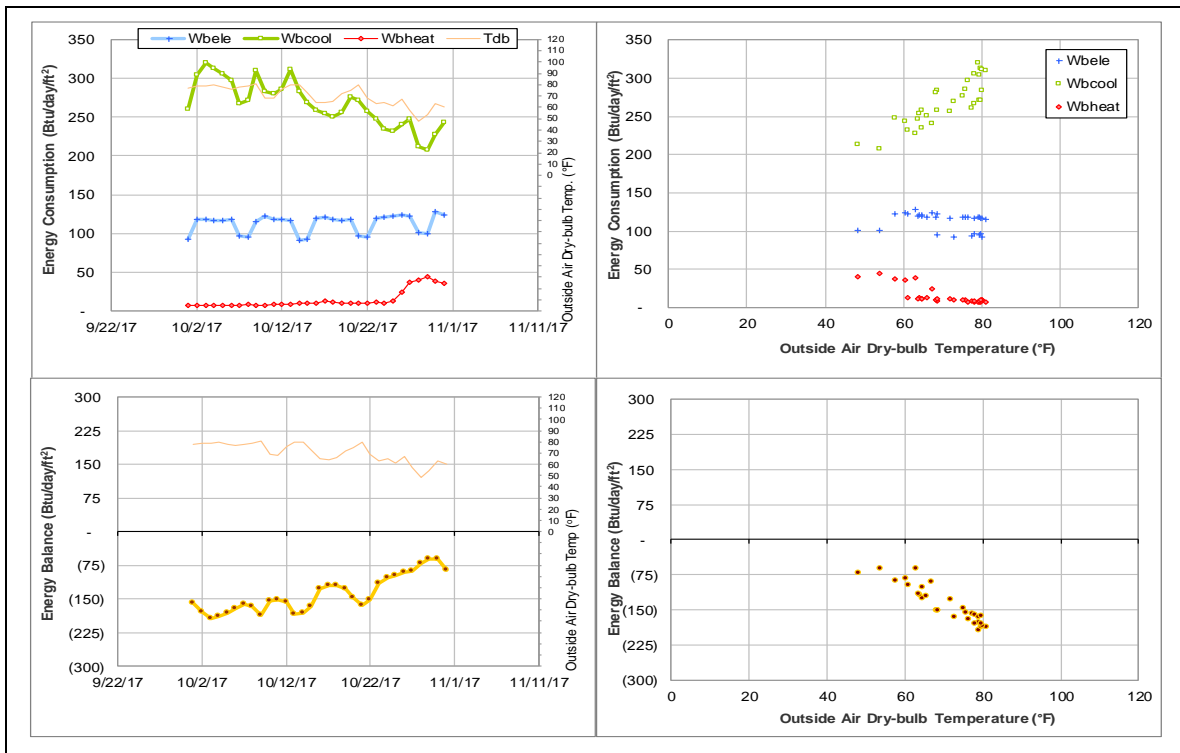
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)*



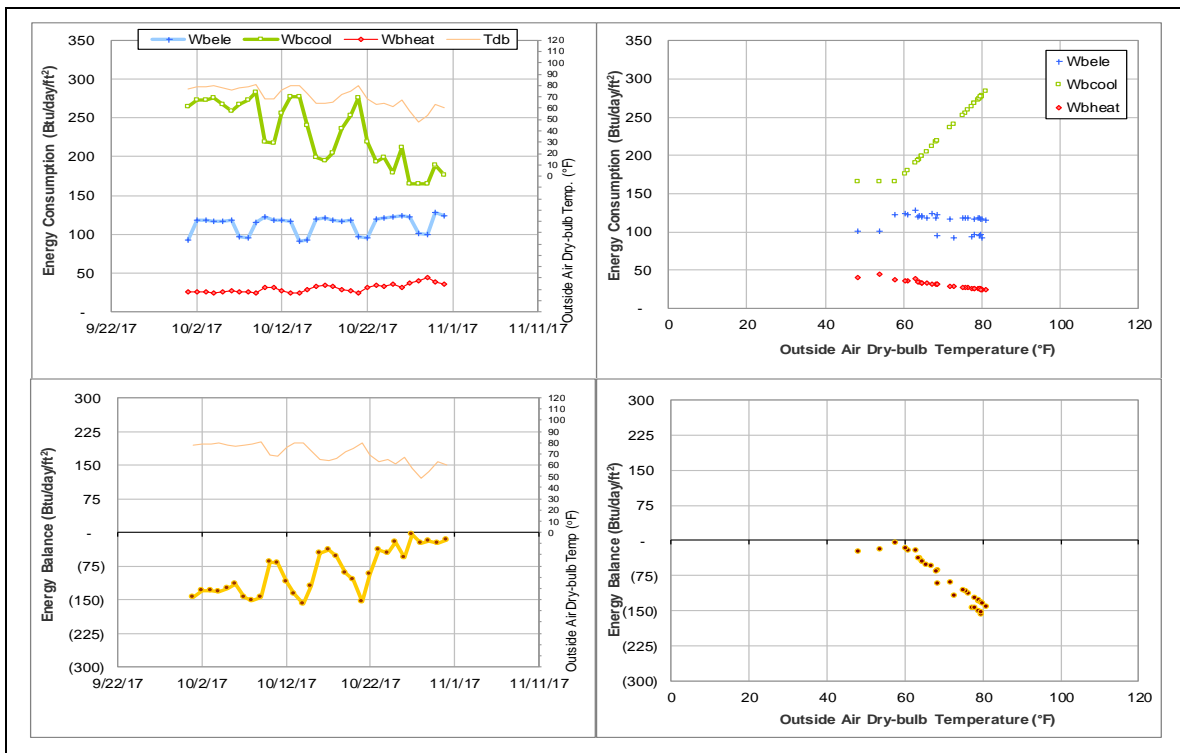
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*





## Haas Residence Hall (TAMU Bldg #549)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002994	31	10/1/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	9/26/2017 – Ongoing

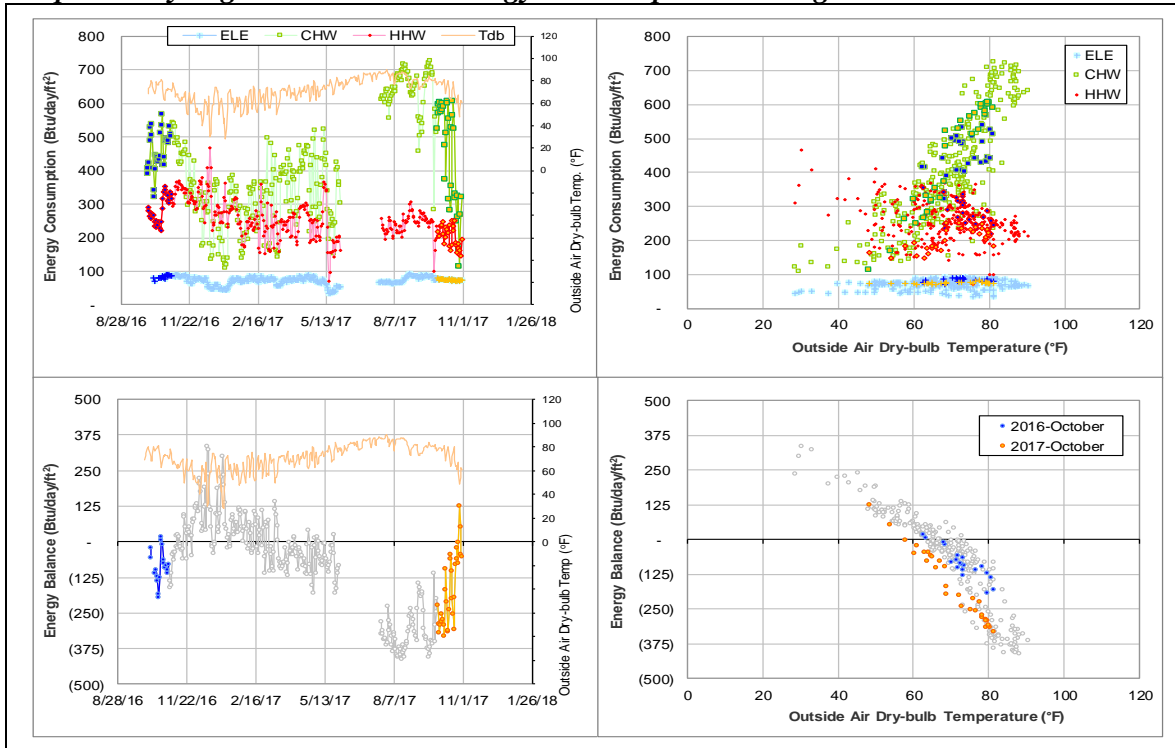
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002994	9/26/2017 – Ongoing	Flow rate	Low
			Supply and return temp	Fluctuating

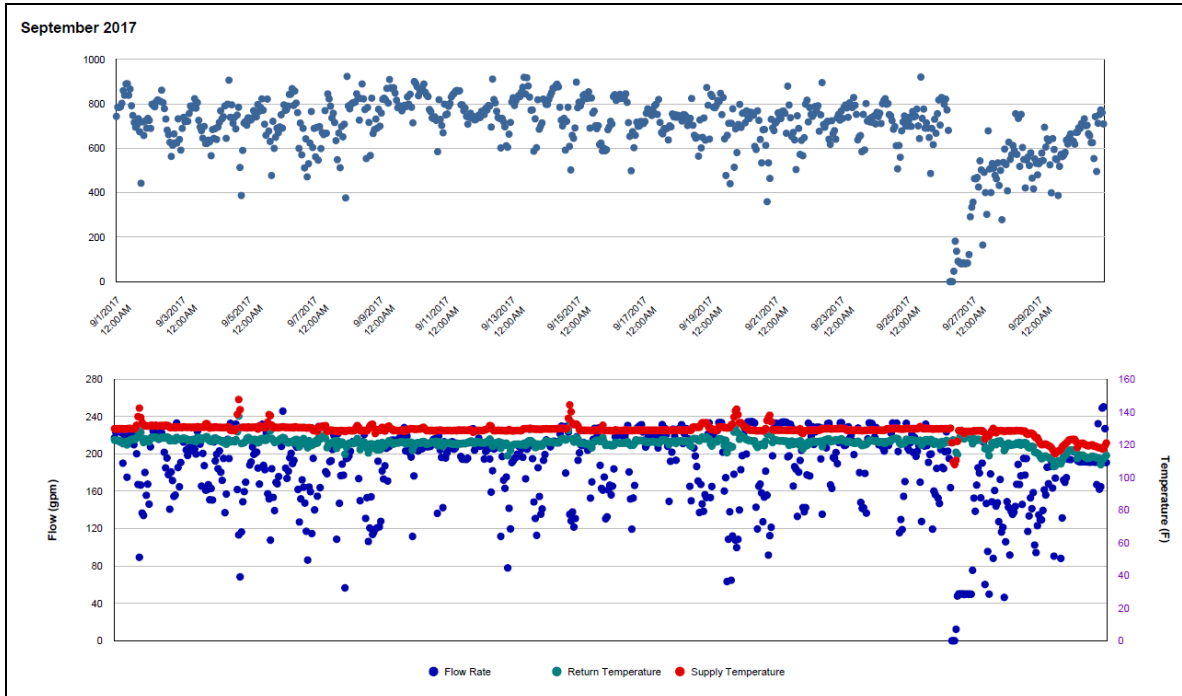
### Quantitative descriptions and comments

HHW flow rate decreased on 9/26/2017 which may have been caused by the plant outage. The flow rate is recovering gradually back to the normal level but is still low. The supply and return temperatures of HHW have been fluctuating after the incident. The affected days are estimated by model.

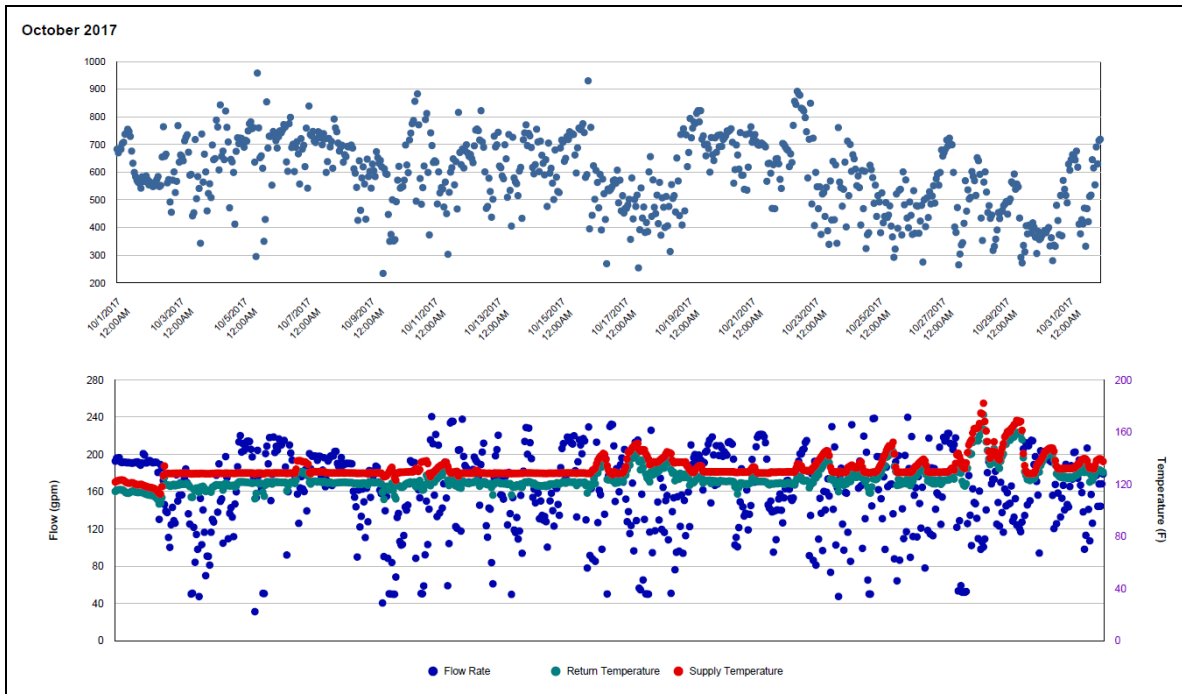
### Explanatory Figure: 13 months energy balance plot with original data.



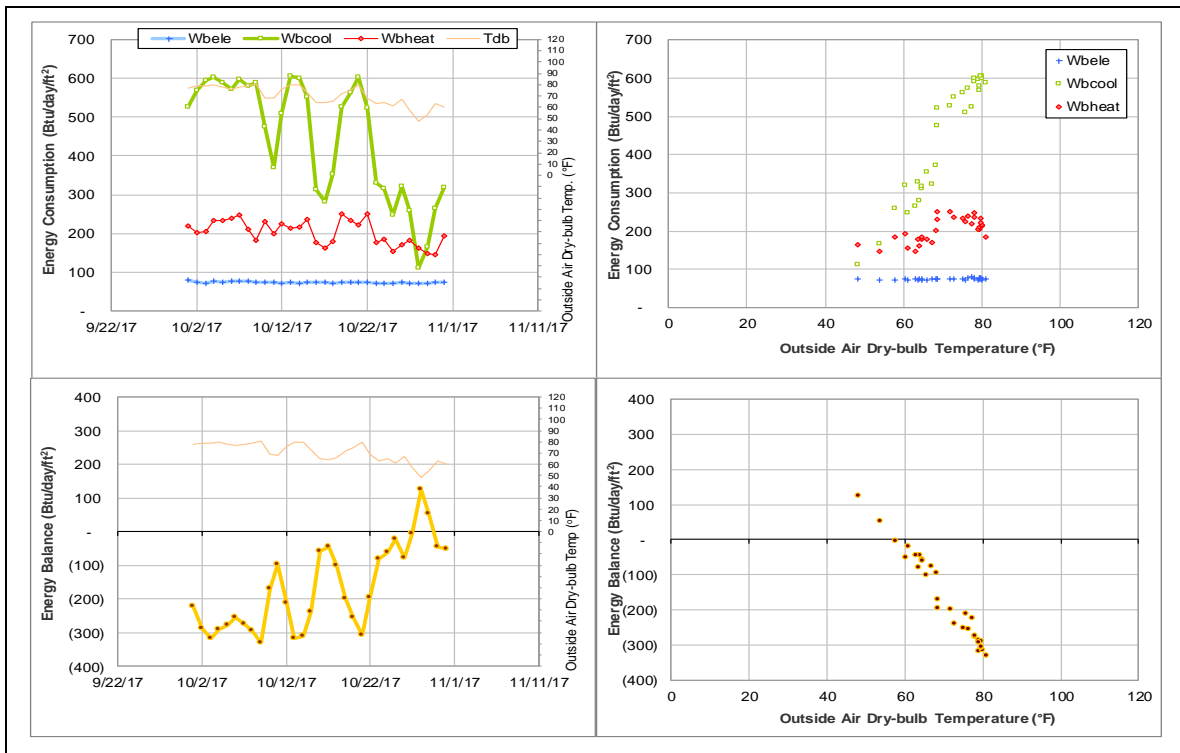
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)*



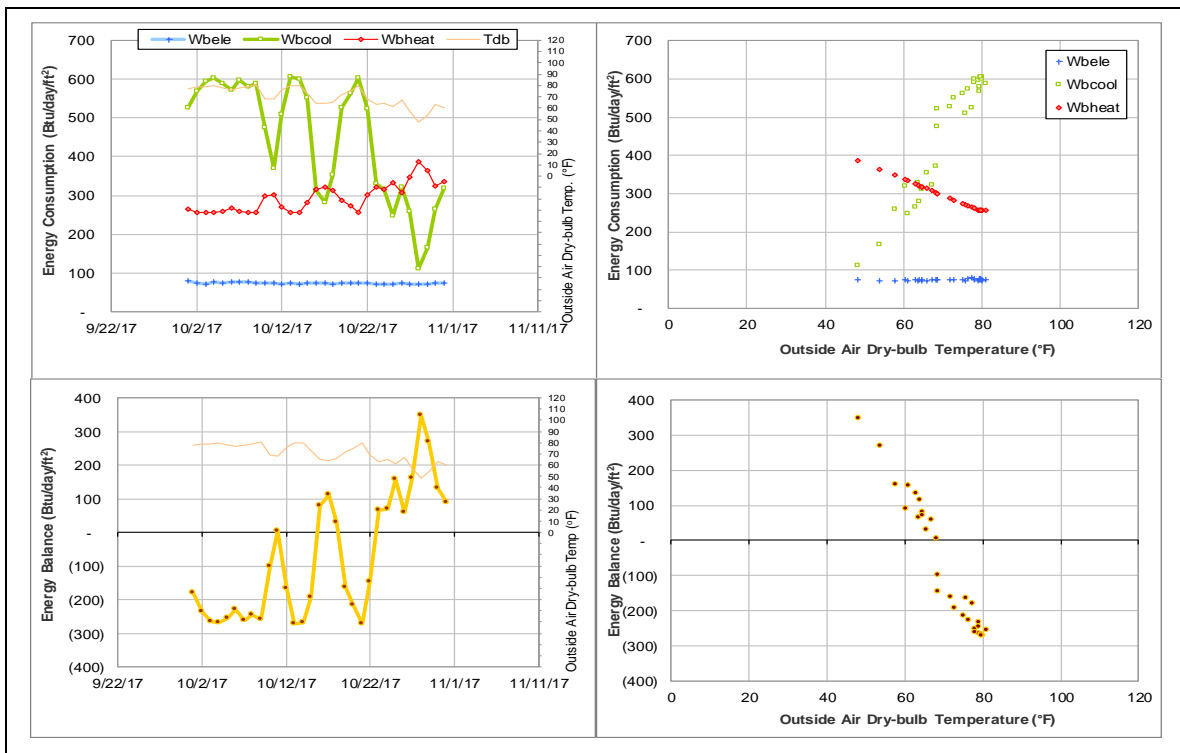
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Entomology Research Lab (TAMU Bldg #815)

### *Estimated data*

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005799	31	10/1/2017 – 10/31/2017	Model
CHW	006043	31	10/1/2017 – 10/31/2017	Model

### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE	The consumption level is lower than the level during the past year. The consumption level is decreasing gradually.	9/1/2017 – Ongoing
CHW	The consumption level is lower than the level during the past year. The consumption level is decreasing gradually.	6/7/2017 – Ongoing

### *Changes in sensor readings related to the detected issues*

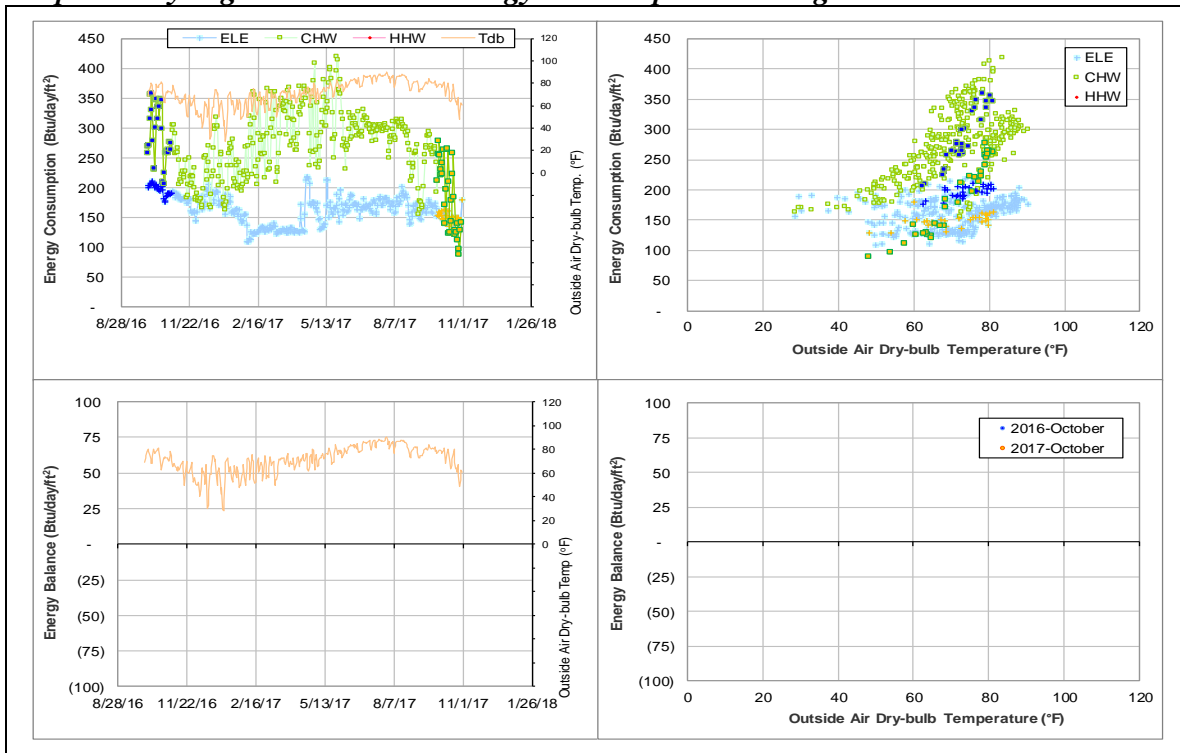
Energy Type	Meter ID	Period	Type	Description
CHW	006043	6/7/2017 – Ongoing	Flow rate	Low

### *Quantitative descriptions and comments*

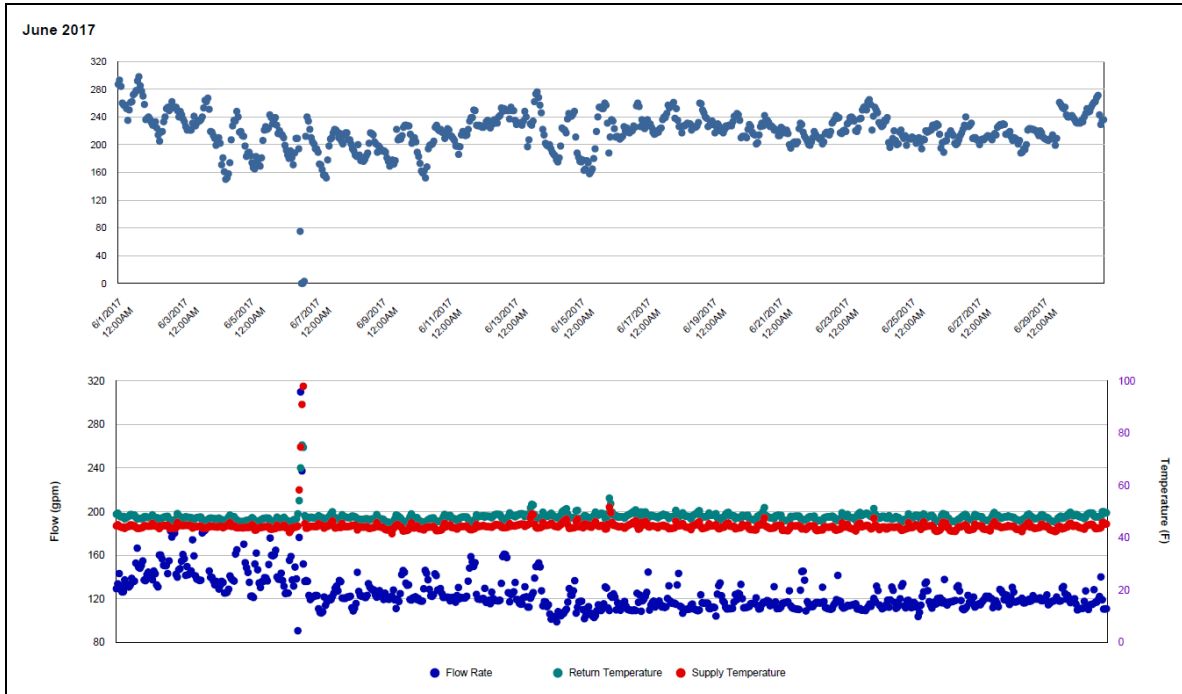
ELE consumption of this building fell to a lower level since 9/1/2017. There appears to be two stable levels in ELE pattern, but the consumption does not fall in a certain level during a certain season in each year. Consumption of this month is estimated by model.

CHW flow rate decreased from 120 – 150 gpm to 105 – 125 gpm on 6/7/2017. The consumption has not been seen to be significantly lower than normal September 2017. Consumption of this month is estimated by model.

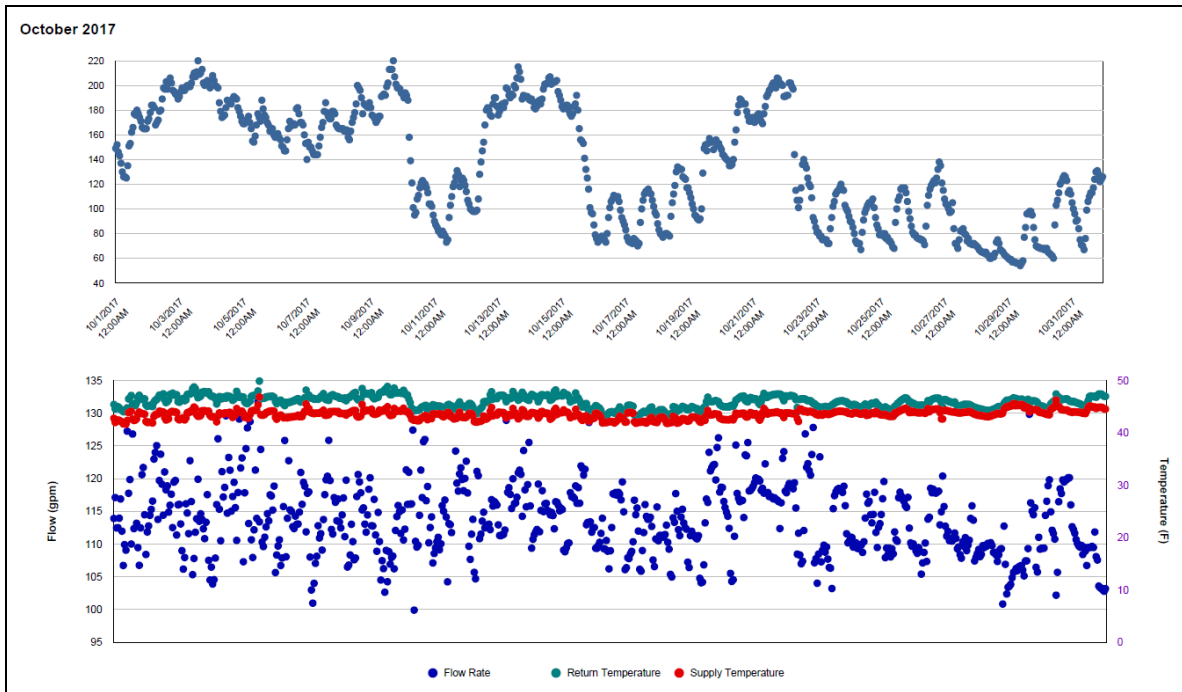
**Explanatory Figure: 13 months energy balance plot with original data.**



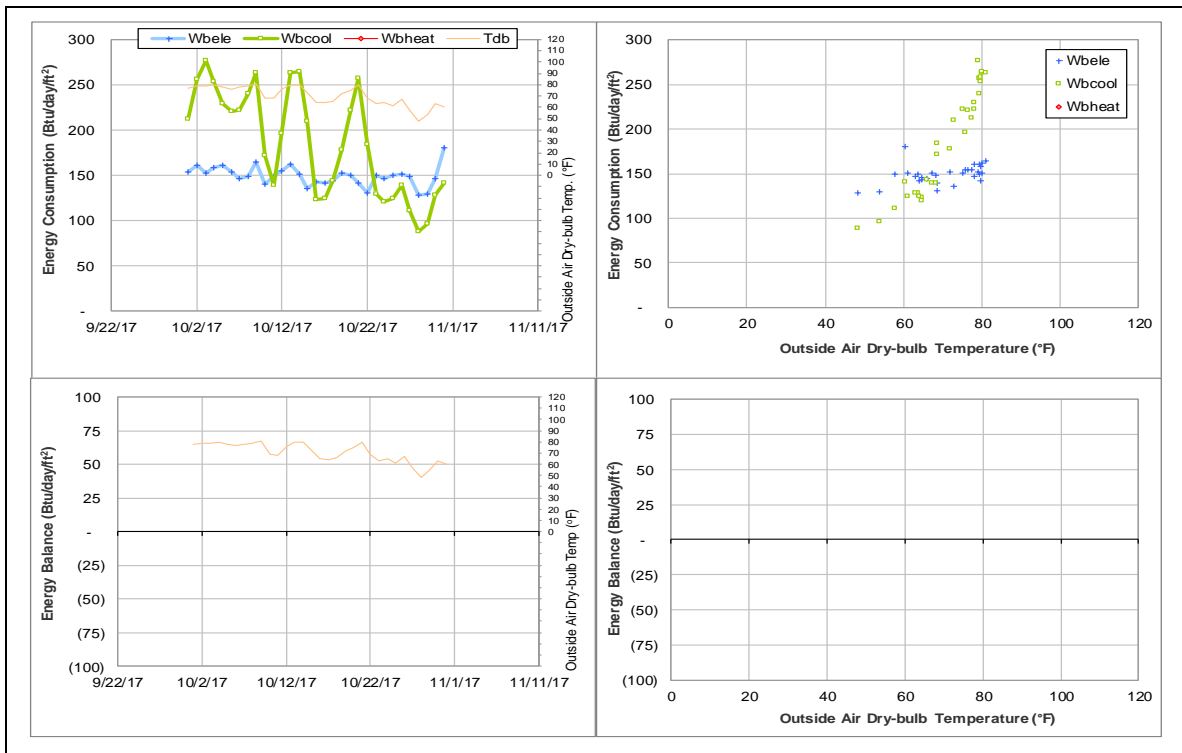
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)*



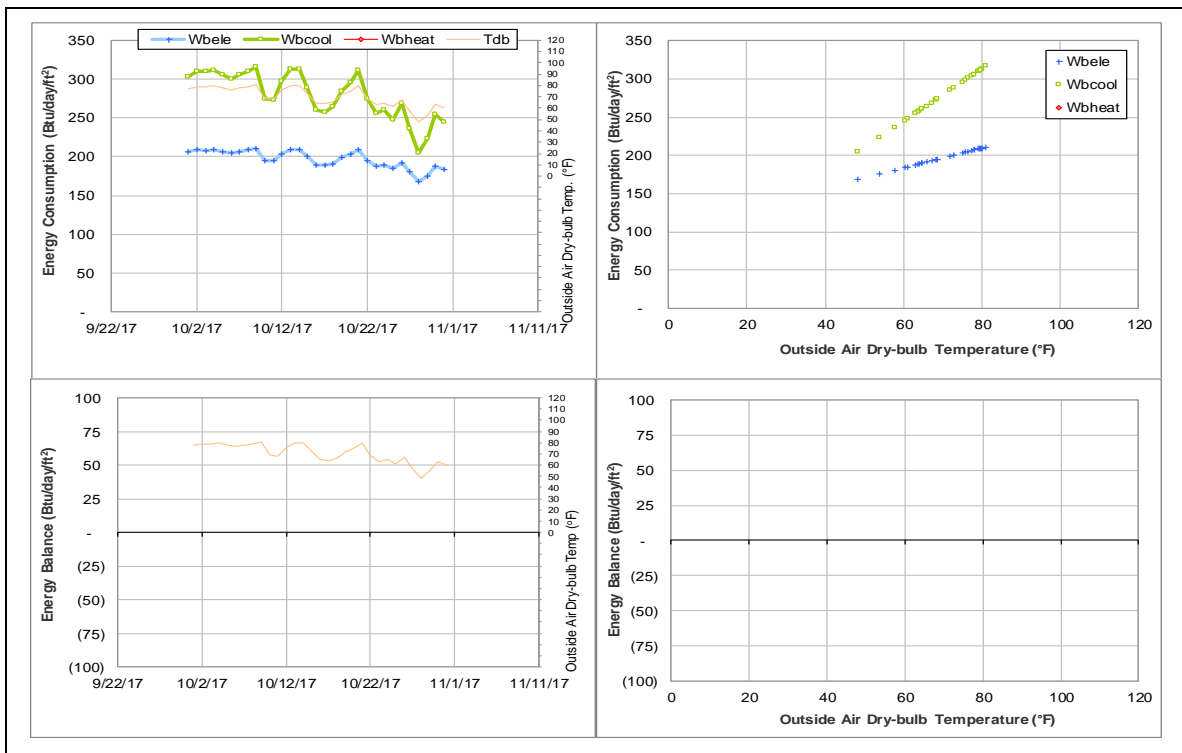
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Kleberg Center (TAMU Bldg #1501)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002628	3	10/1/2017 – 10/3/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is decreasing gradually. The consumption level is lower than the level during the past year.	7/12/2017 – 10/3/2017

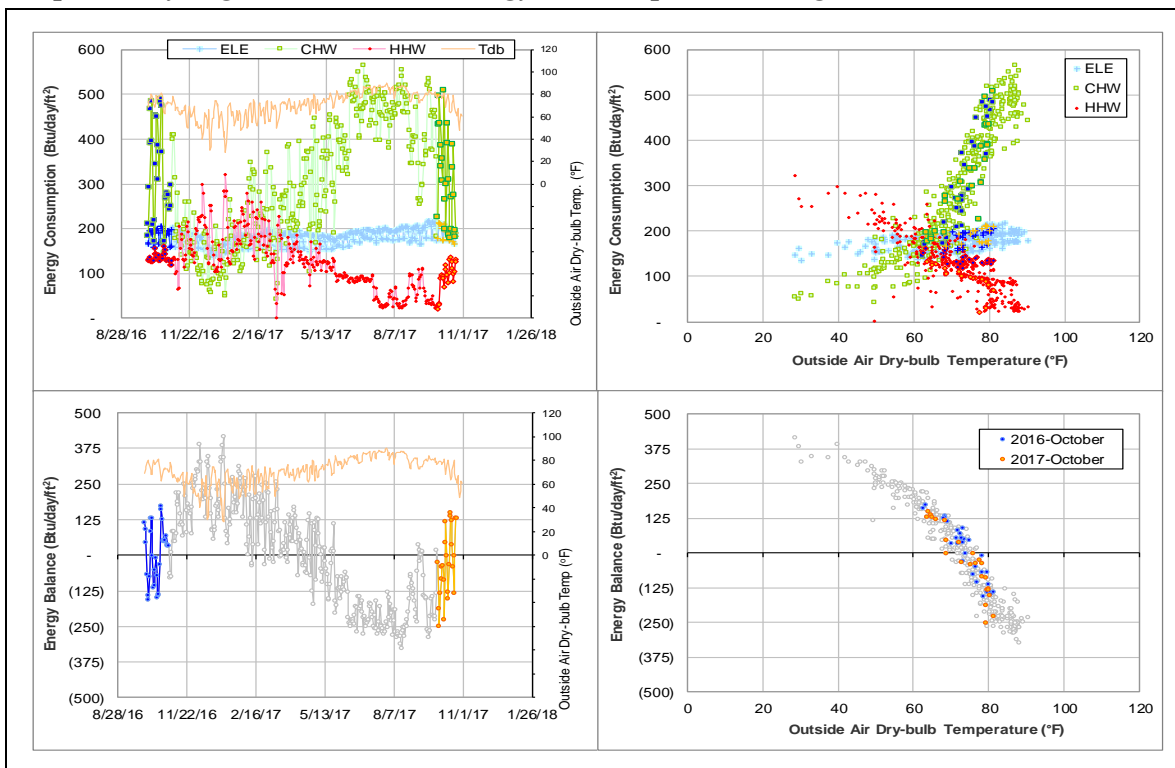
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002628	7/12/2017 – 10/3/2017	Flow rate	Low

### Quantitative descriptions and comments

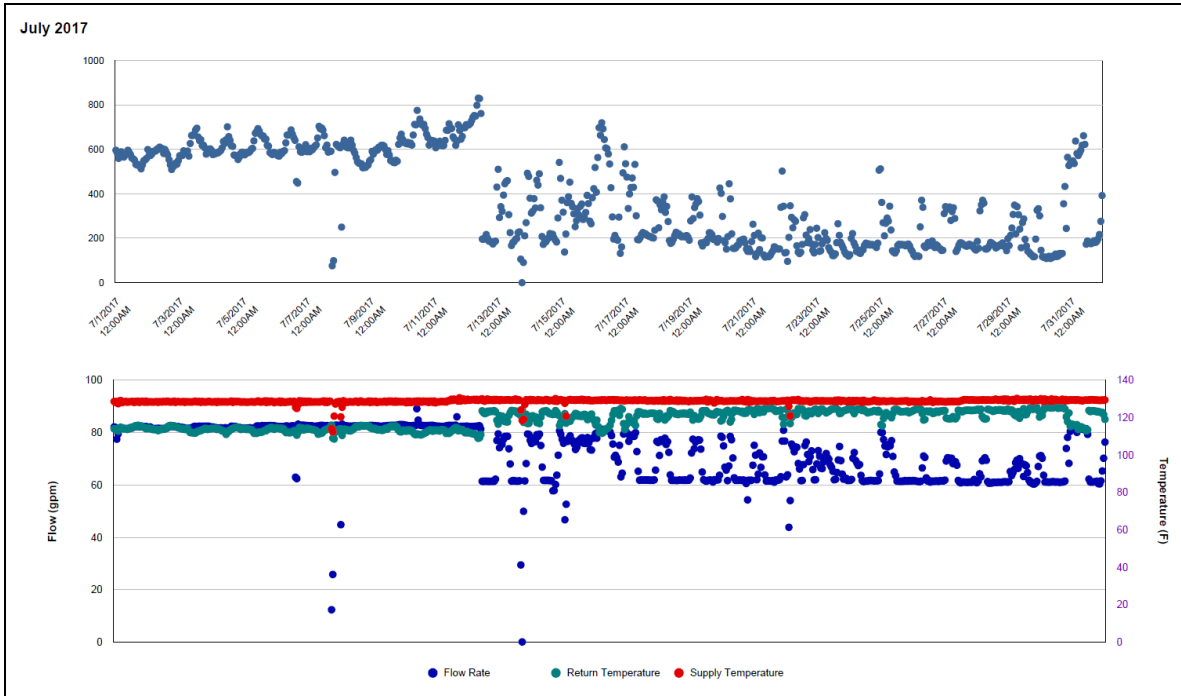
HHW flow rate decreased from about 80 gpm to 60 – 80 gpm during 7/12/2017 – 10/3/2017. The affected days are estimated by model.

### Explanatory Figure: 13 months energy balance plot with original data

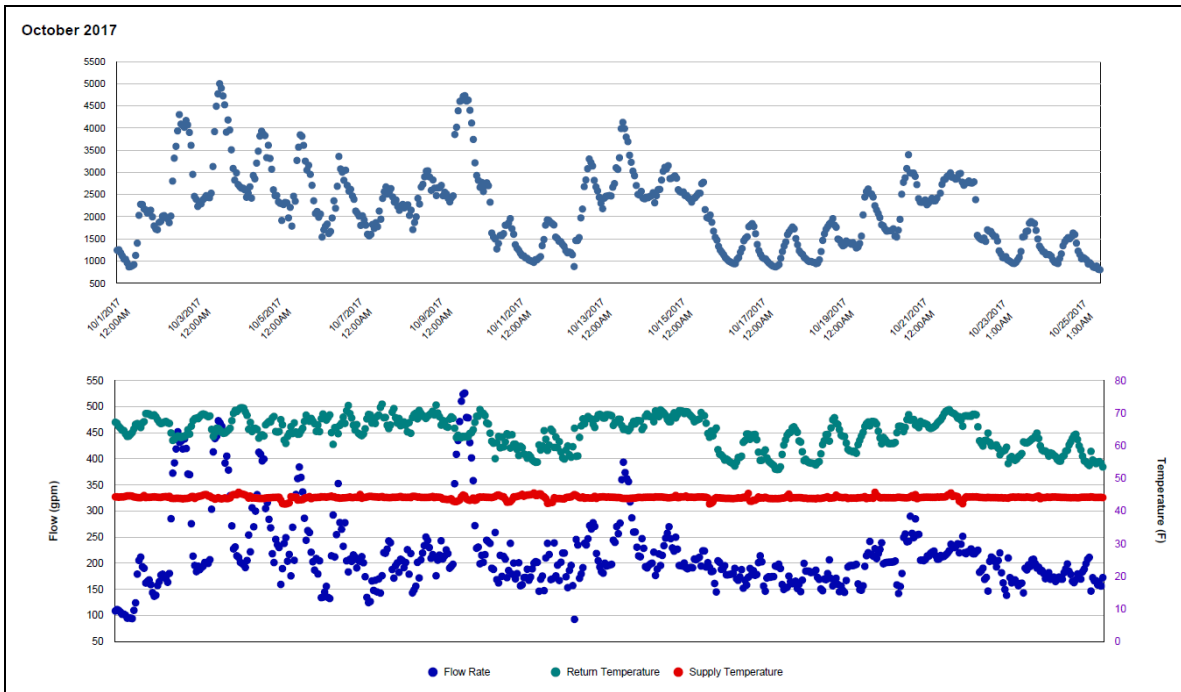




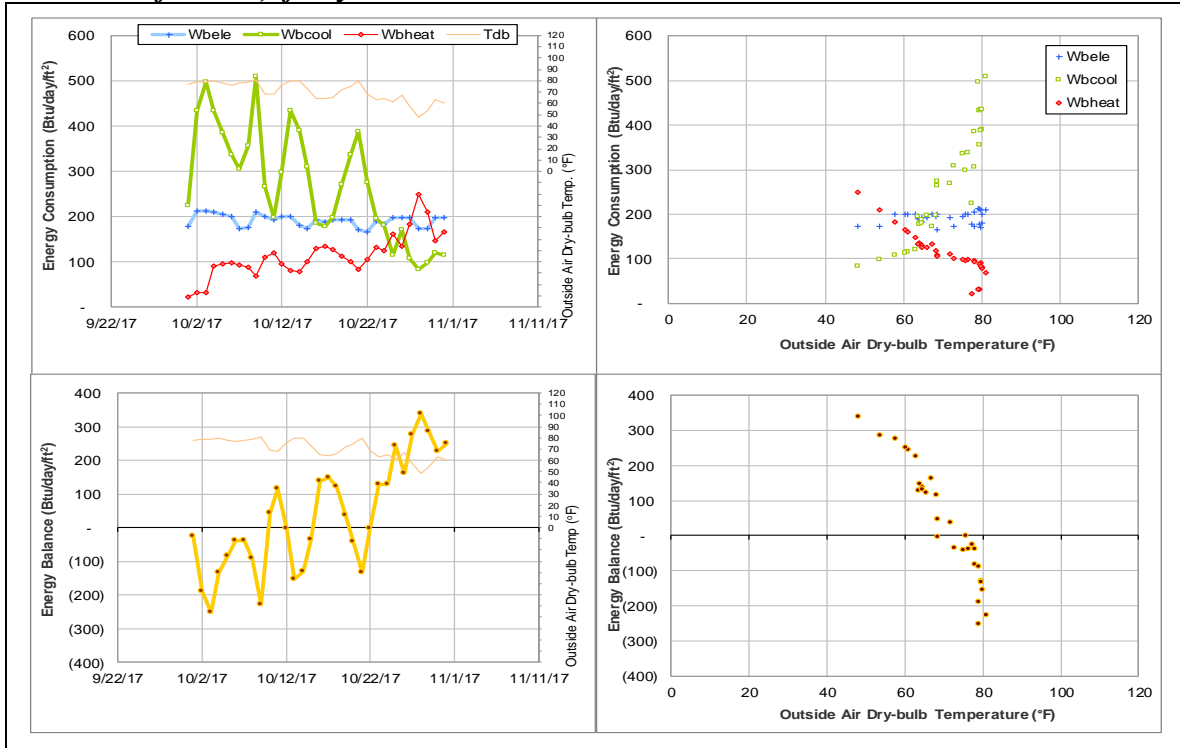
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during July 2017)***



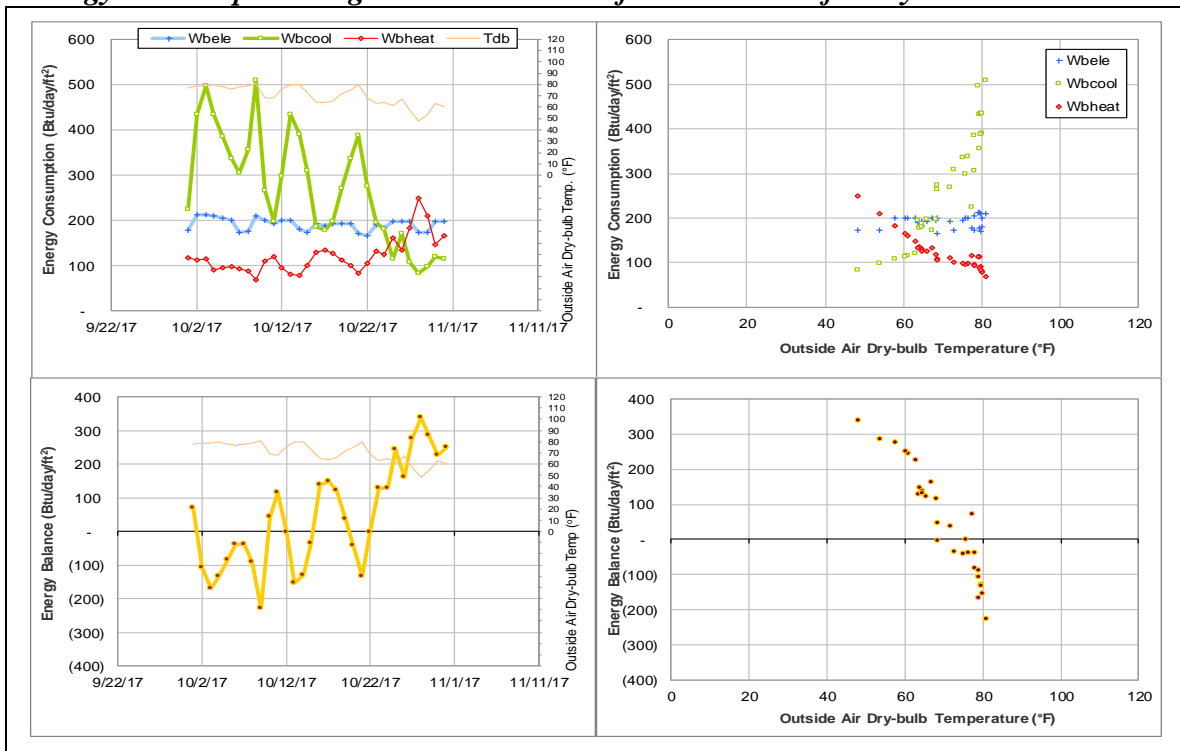
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)***



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis*



## Southern Crop Improvement Greenhouse (TAMU Bldg #1512)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005931	31	10/1/2017 – 10/31/2017	Model

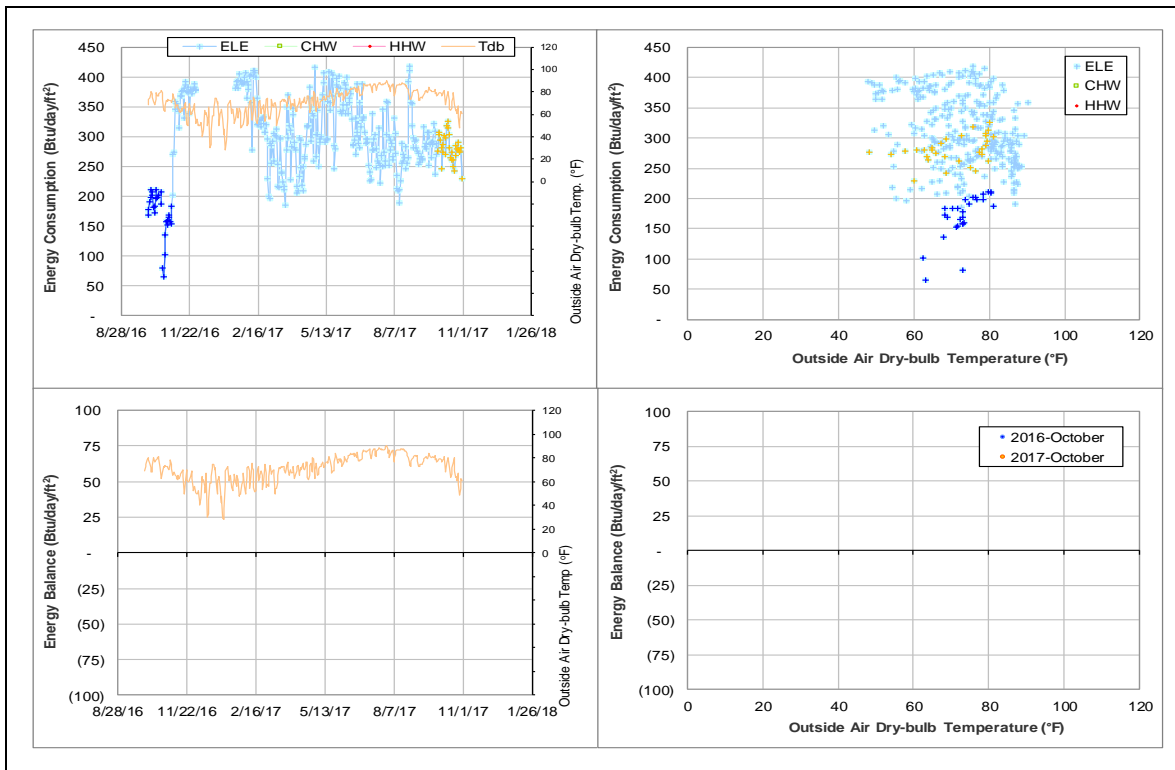
### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The ELE consumption increased.	1/19/2017 – Ongoing

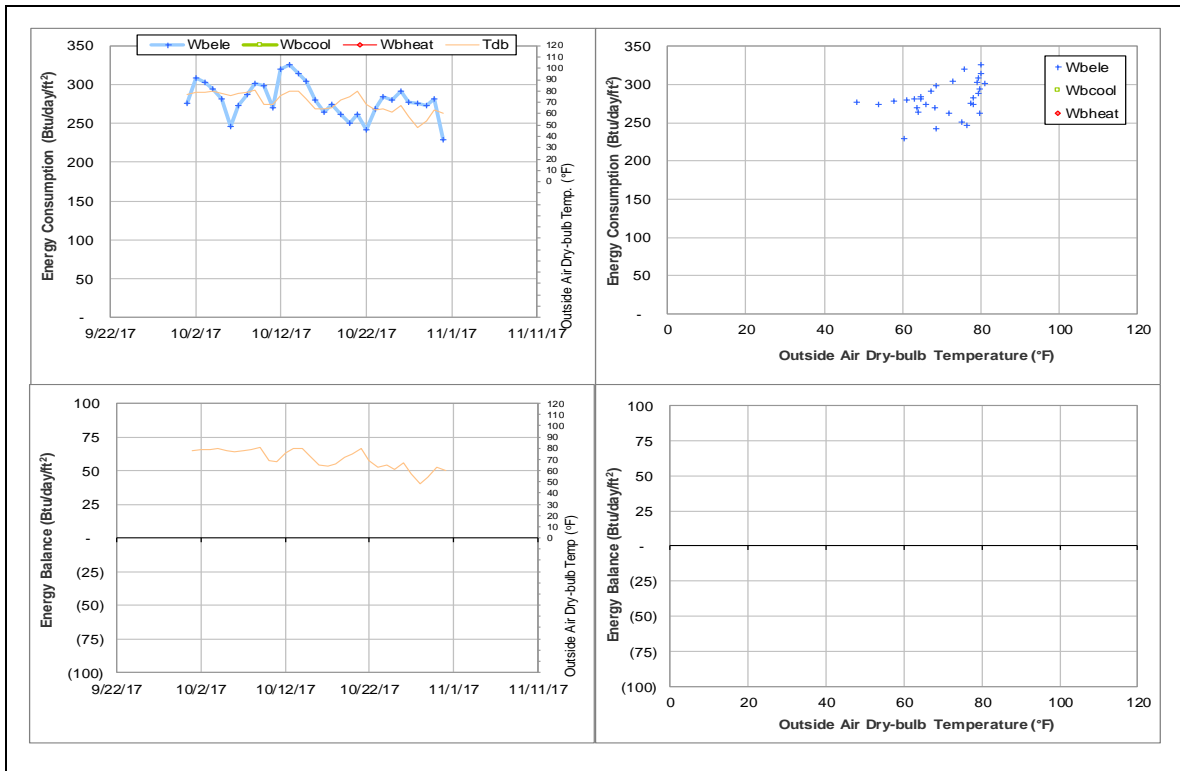
### Quantitative descriptions and comments

The ELE consumption level has changed frequently since July 2015 as shown in the time series. During the period of 1/22/2017 – 2/15/2017 it increased to the higher consumption pattern but then dropped again. The ELE consumption is estimated using a model based on data during 7/1/2014 – 6/30/2015 when the consumption was stable.

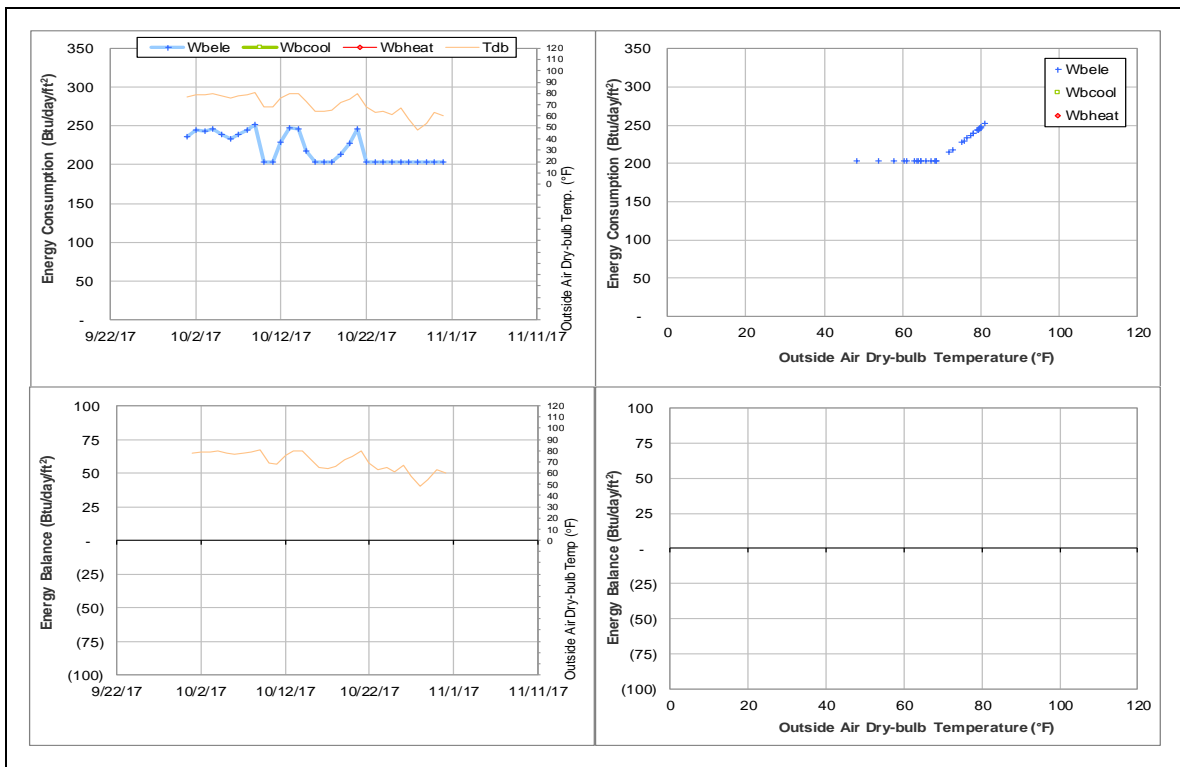
### Explanatory Figure: 13 months energy balance plot with original data



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## TX School of Rural Public Health (TAMU Bldg # 1518, 1519, 1520)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005274	31	10/1/2017 – 10/31/2017	Switch with 005275
ELE	005275	31	10/1/2017 – 10/31/2017	Switch with 005274

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE (005274)	The consumption level increased largely.	8/14/2015 - ongoing
ELE (005275)	The consumption level decreased largely.	8/14/2015 - ongoing

### Comments

ELE meter ID# 005274 serves TX School of Rural Public Health B and ELE meter ID# 005275 is for TX School of Rural Public Health C.

The ELE consumption levels for these two meters had a sudden change on 8/14/2015. The consumption level for meter ID# 005274 increased by approximate 80 kWh/h (~ 100%) and the consumption level for meter ID# 005275 decreased by around 80 kWh/h (~50%). The change observed on 8/14/2015 12:00 AM (see below explanatory figure) suggests that the two meters were switched and may need to be investigated.

### Explanatory Figure: The time series plot of hourly electricity consumption for two ELE meters #005274 and# 005275

Time	Cumulative reading	Hourly Consumption	MeterID	Time	Cumulative reading	Hourly Consumption	MeterID
08/13/2015 12:00:00 PM	2930064.013	84.262	005274	08/13/2015 12:00:00 PM	4741958.002	170.658	005275
08/13/2015 01:00:00 PM	2930068.589	84.576	005274	08/13/2015 01:00:00 PM	4742132.336	174.334	005275
08/13/2015 02:00:00 PM	2931051.959	83.37	005274	08/13/2015 02:00:00 PM	4742303.554	171.218	005275
08/13/2015 03:00:00 PM	2931146.799	94.84	005274	08/13/2015 03:00:00 PM	4742483.983	180.129	005275
08/13/2015 04:00:00 PM	2931240.505	83.706	005274	08/13/2015 04:00:00 PM	4742662.753	179.07	005275
08/13/2015 05:00:00 PM	2931324.169	83.664	005274	08/13/2015 05:00:00 PM	4742832.009	169.256	005275
08/13/2015 06:00:00 PM	2931399.91	75.741	005274	08/13/2015 06:00:00 PM	4742993.53	161.521	005275
08/13/2015 07:00:00 PM	2931472.181	72.271	005274	08/13/2015 07:00:00 PM	4743149.675	156.145	005275
08/13/2015 08:00:00 PM	2931543.838	71.657	005274	08/13/2015 08:00:00 PM	4743305.9	156.225	005275
08/13/2015 09:00:00 PM	2931613.306	69.468	005274	08/13/2015 09:00:00 PM	4743462.097	156.197	005275
08/13/2015 10:00:00 PM	2931672.706	59.4	005274	08/13/2015 10:00:00 PM	4743610.221	148.124	005275
08/13/2015 11:00:00 PM	2931733.072	60.366	005274	08/13/2015 11:00:00 PM	4743745.645	135.424	005275
08/14/2015 12:00:00 AM	4743876.03	130.385	005274	08/14/2015 12:00:00 AM	2931791.19	58.118	005275
08/14/2015 01:00:00 AM	4744008.406	132.376	005274	08/14/2015 01:00:00 AM	2931840.35	58.16	005275
08/14/2015 02:00:00 AM	4744141.74	133.334	005274	08/14/2015 02:00:00 AM	2931908.534	59.184	005275
08/14/2015 03:00:00 AM	4744272.553	130.813	005274	08/14/2015 03:00:00 AM	2931966.686	58.152	005275
08/14/2015 04:00:00 AM	4744404.045	131.492	005274	08/14/2015 04:00:00 AM	2932023.869	56.903	005275
08/14/2015 05:00:00 AM	4744534.38	130.335	005274	08/14/2015 05:00:00 AM	2932080.05	56.461	005275
08/14/2015 06:00:00 AM	4744667.111	132.731	005274	08/14/2015 06:00:00 AM	2932137.05	57	005275
08/14/2015 07:00:00 AM	4744820.038	152.927	005274	08/14/2015 07:00:00 AM	2932232.983	95.933	005275
08/14/2015 08:00:00 AM	4744972.221	152.183	005274	08/14/2015 08:00:00 AM	2932319.162	86.179	005275
08/14/2015 09:00:00 AM	4745134.467	162.246	005274	08/14/2015 09:00:00 AM	2932404.691	85.529	005275
08/14/2015 10:00:00 AM	4745308.905	174.438	005274	08/14/2015 10:00:00 AM	2932489.976	85.285	005275
08/14/2015 11:00:00 AM	4745476.832	167.927	005274	08/14/2015 11:00:00 AM	2932564.419	74.443	005275
08/14/2015 12:00:00 PM	4745634.44	157.608	005274	08/14/2015 12:00:00 PM	2932634.064	69.645	005275
08/14/2015 01:00:00 PM	4745798.345	154.905	005274	08/14/2015 01:00:00 PM	2932704.723	70.659	005275
08/14/2015 02:00:00 PM	4745949.369	160.024	005274	08/14/2015 02:00:00 PM	2932777.373	72.65	005275
08/14/2015 03:00:00 PM	4746110.346	160.977	005274	08/14/2015 03:00:00 PM	2932845.908	68.535	005275
08/14/2015 04:00:00 PM	4746270.303	160.957	005274	08/14/2015 04:00:00 PM	2932920.525	74.617	005275
08/14/2015 05:00:00 PM	4746431.347	160.444	005274	08/14/2015 05:00:00 PM	2932996.835	76.31	005275
08/14/2015 06:00:00 PM	4746586.415	155.068	005274	08/14/2015 06:00:00 PM	2933065.518	68.683	005275
08/14/2015 07:00:00 PM	4746727.476	141.061	005274	08/14/2015 07:00:00 PM	2933127.559	62.041	005275
08/14/2015 08:00:00 PM	4746864.372	136.896	005274	08/14/2015 08:00:00 PM	2933195.384	67.825	005275
08/14/2015 09:00:00 PM	4747004.372	140	005274	08/14/2015 09:00:00 PM	2933263.832	68.248	005275
08/14/2015 10:00:00 PM	4747137.886	133.514	005274	08/14/2015 10:00:00 PM	2933323.26	59.628	005275
08/14/2015 11:00:00 PM	4747269.569	131.683	005274	08/14/2015 11:00:00 PM	2933382.3	59.04	005275

## West Campus Parking Garage (TAMU Bldg #1559)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	004327	31	10/1/2017 – 10/31/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has increased suddenly.	9/6/2017 – Ongoing

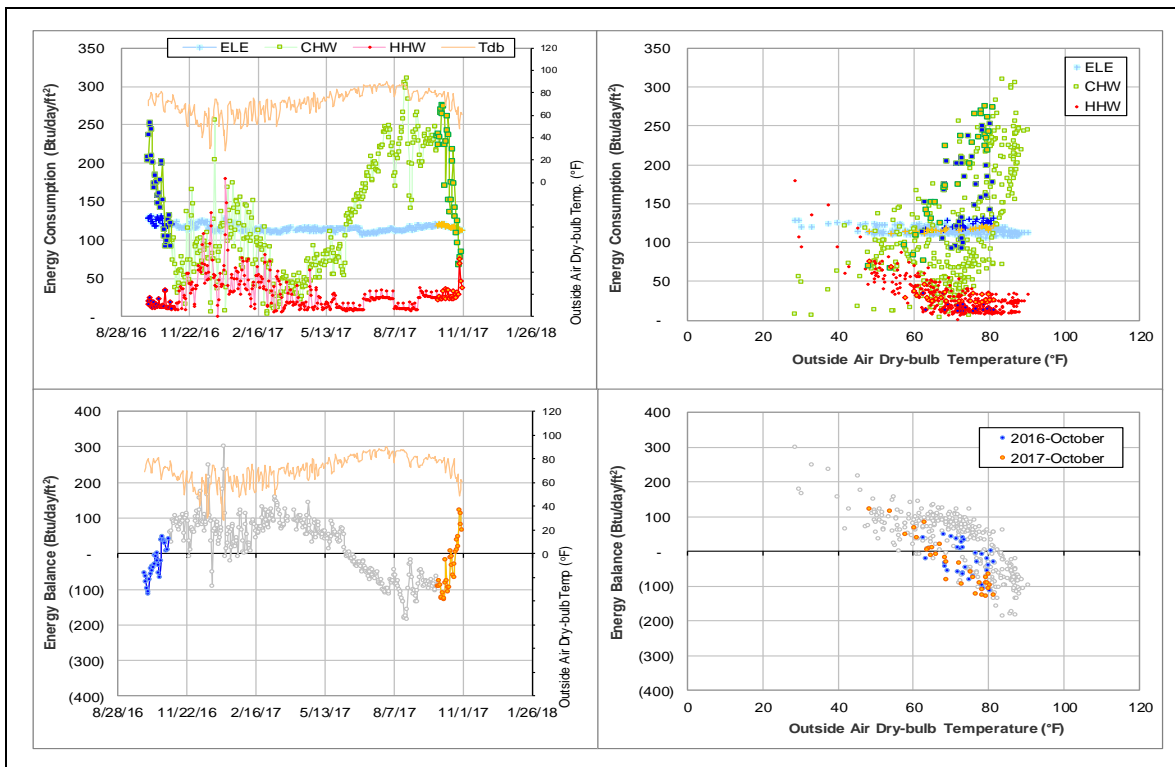
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	004327	9/6/2017 – Ongoing	Flow rate	high

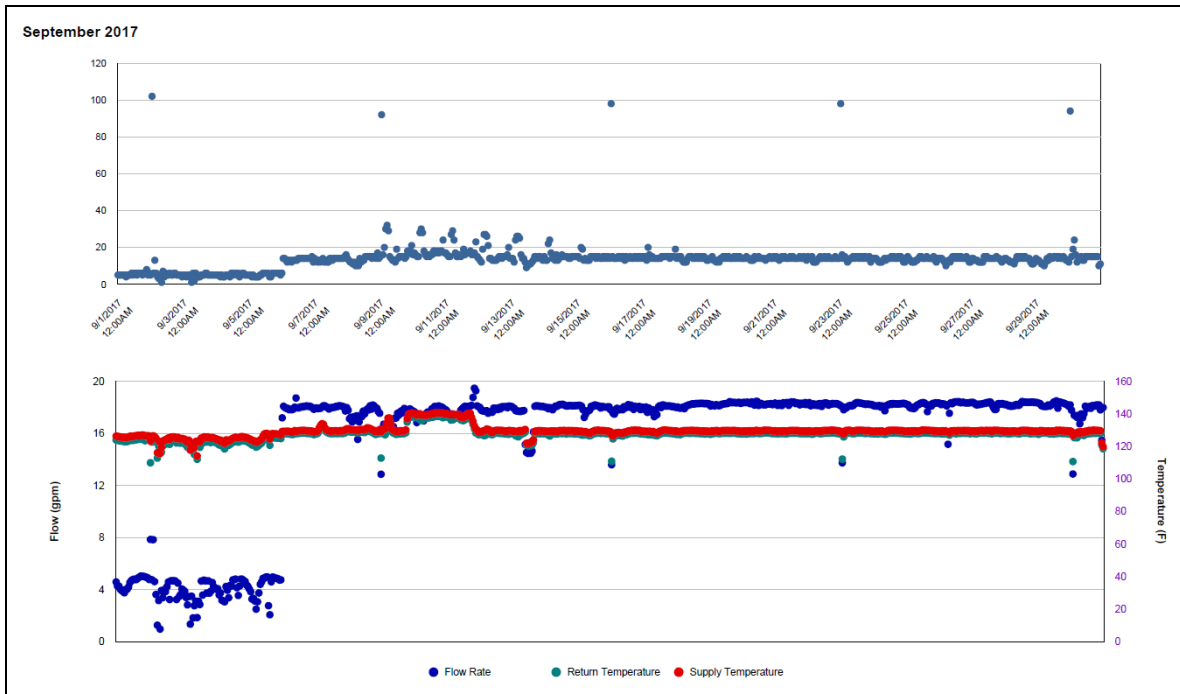
### Quantitative descriptions and comments

HHW flow rate significantly increased from 2 – 6 gpm to about 18 gpm during 6/30/2017 – 8/6/2017 and since 9/6/2017. The consumption of the affected period is estimated using a model based on the data of 6/1/2015 – 5/31/2016.

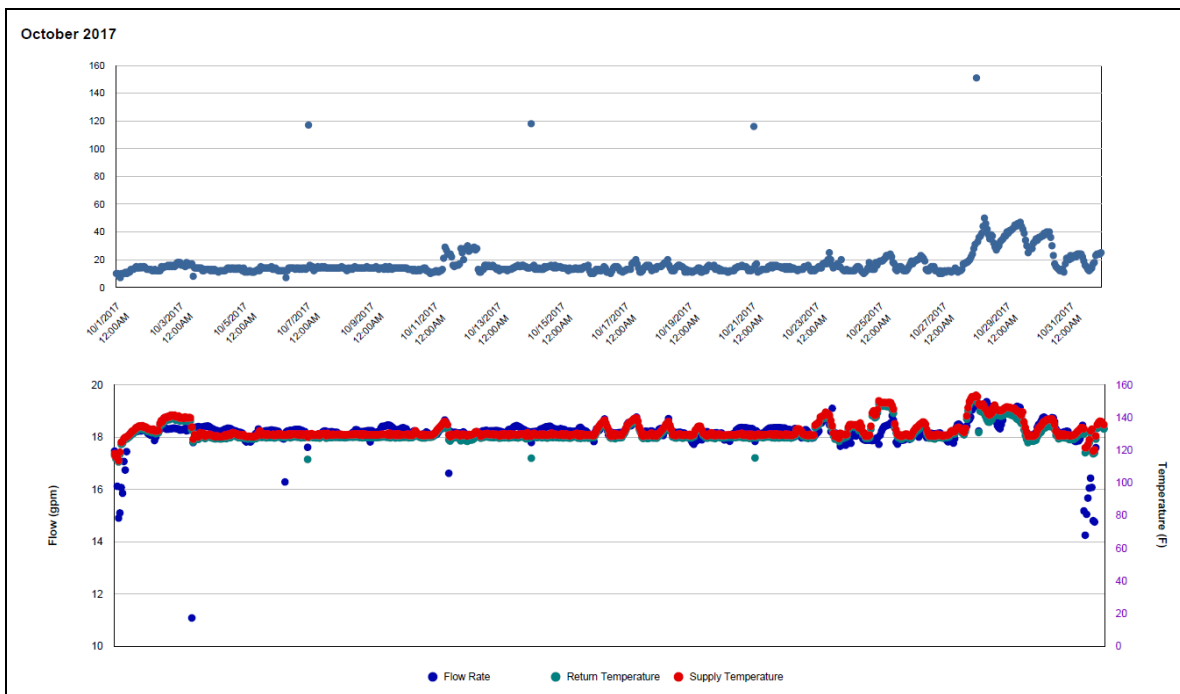
### Explanatory Figure: 13 months energy balance plot with original data



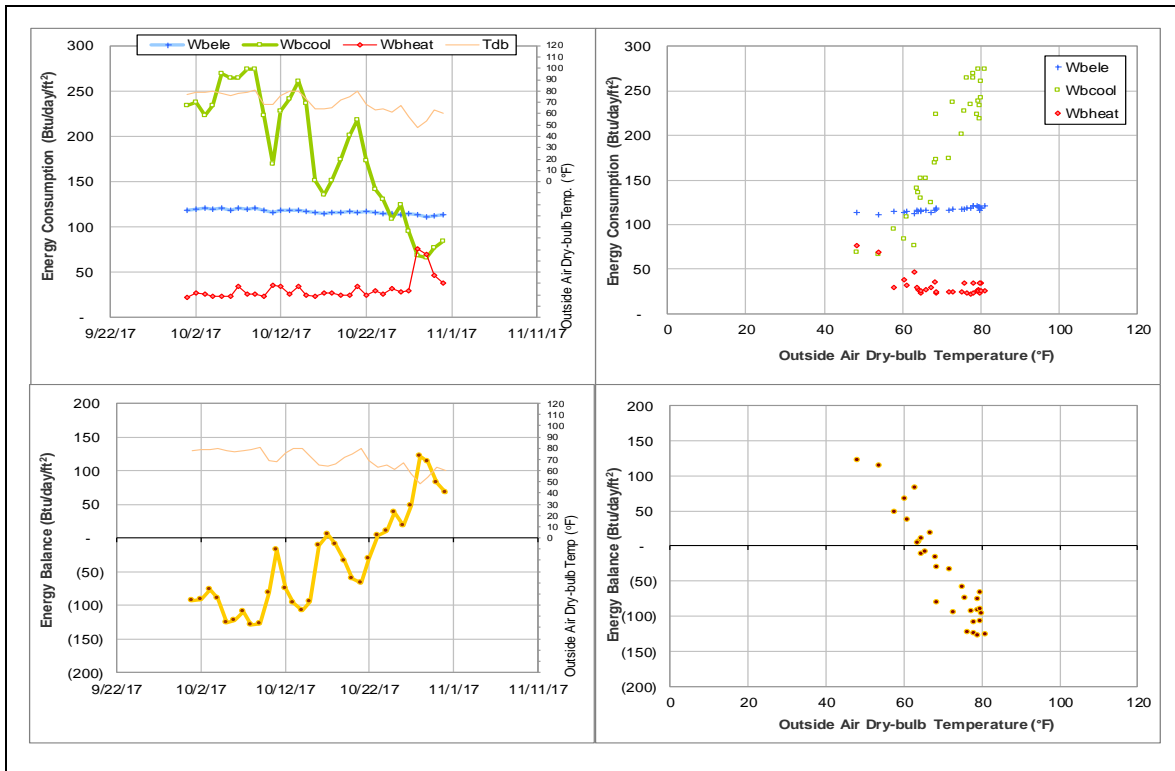
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)*



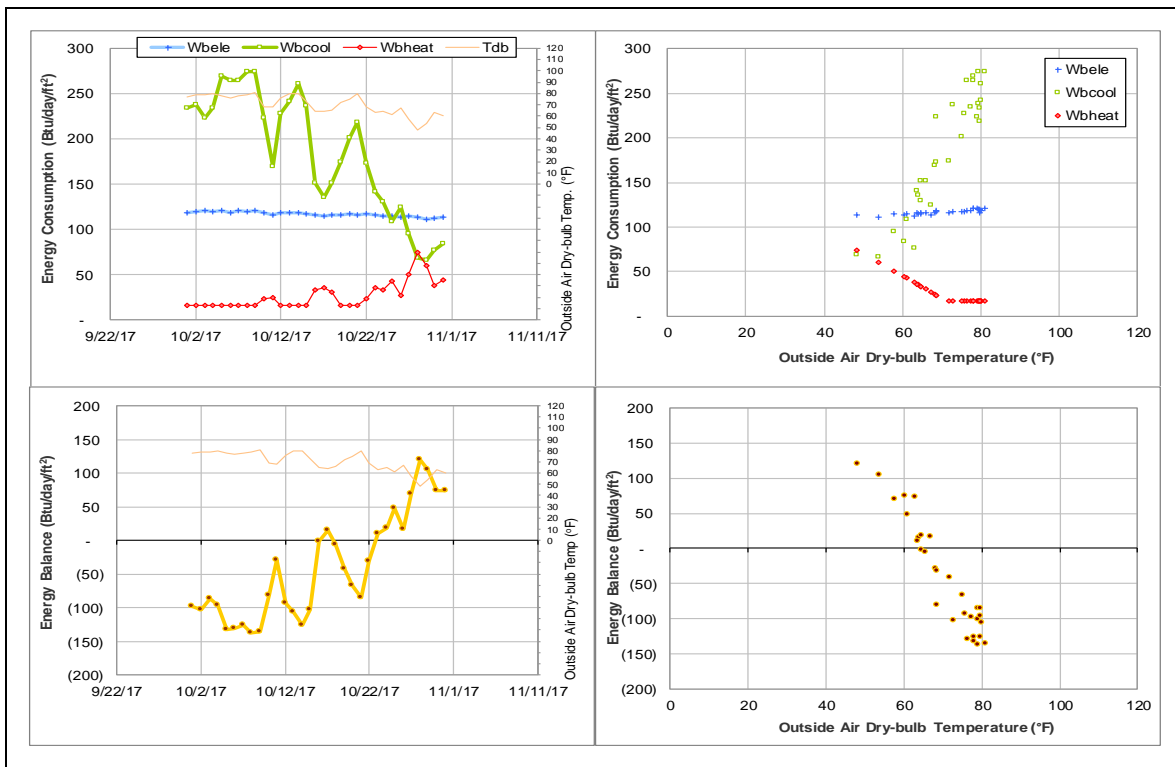
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*





## George Bush Presidential Library & Museum (TAMU Bldg #1606)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002812	27	10/1/2017 – 10/27/2017	Model

### Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has increased suddenly.	6/8/2017 – 10/27/2017

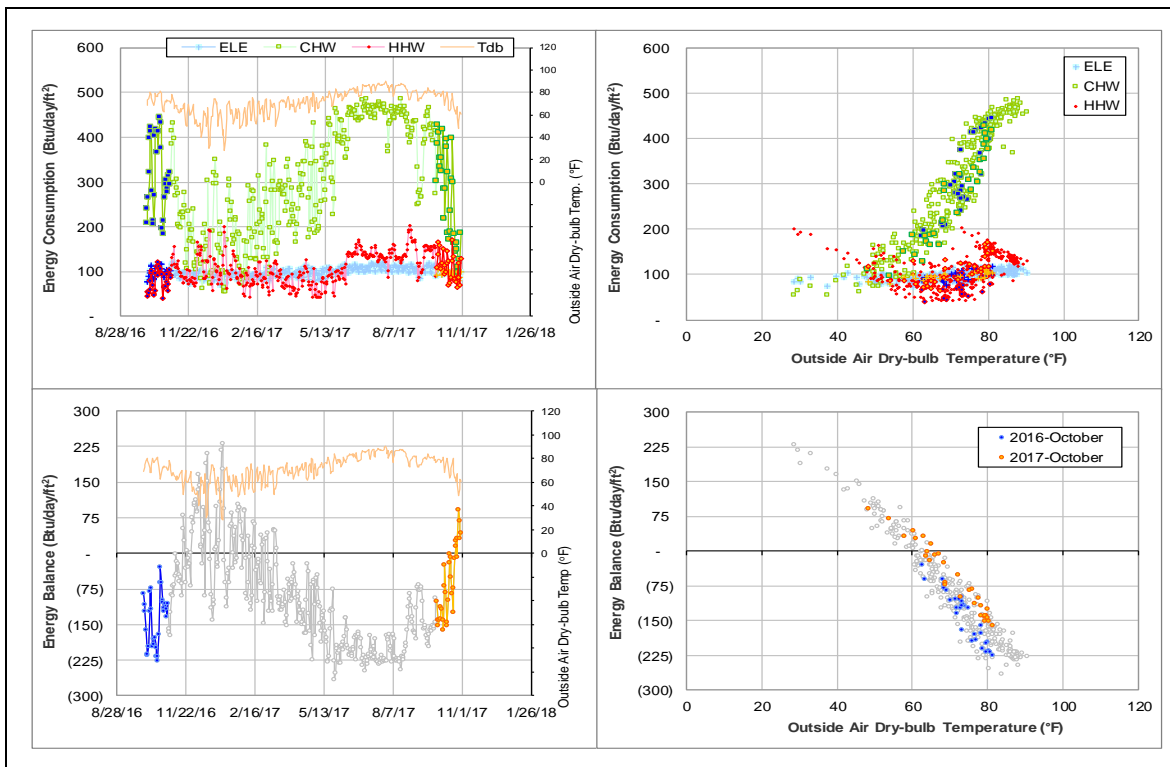
### Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002812	6/8/2017 – 10/27/2017	Return temp	Low

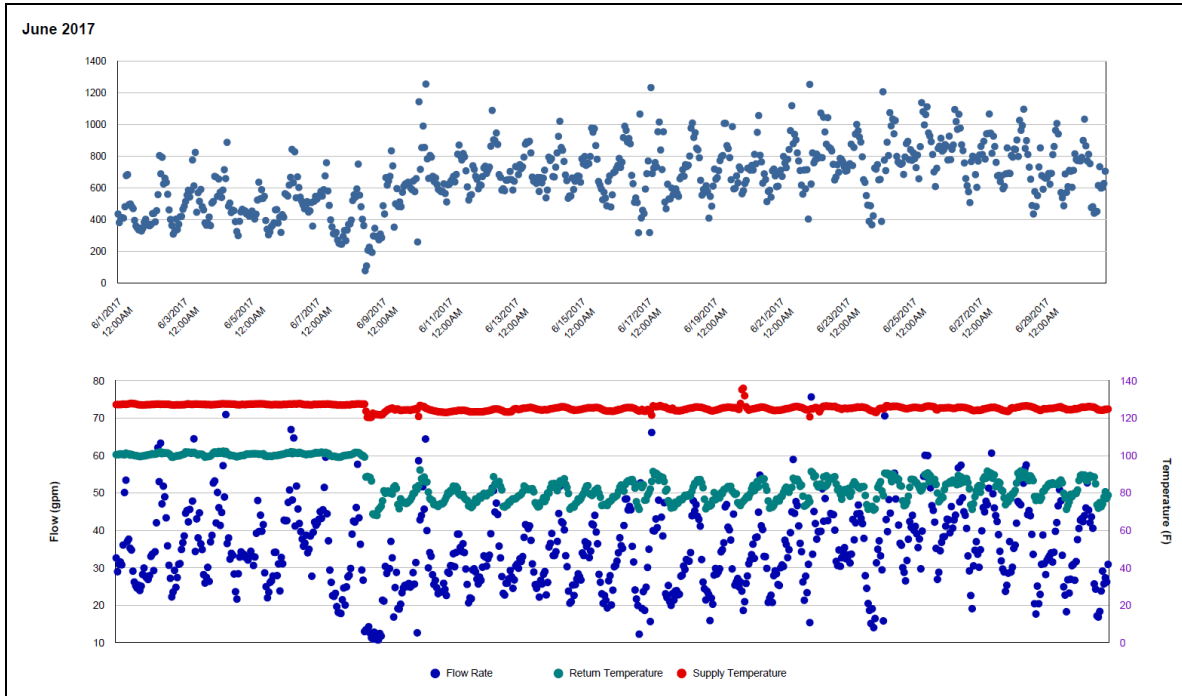
### Quantitative descriptions and comments

Return temperature of HHW dropped on 6/8/2017 – 10/27/2017. Delta-T thus increased from about 30°F to 40 – 50°F. As there is no significant change in flow rate, HHW consumption increased significantly. The affected days are estimated by model.

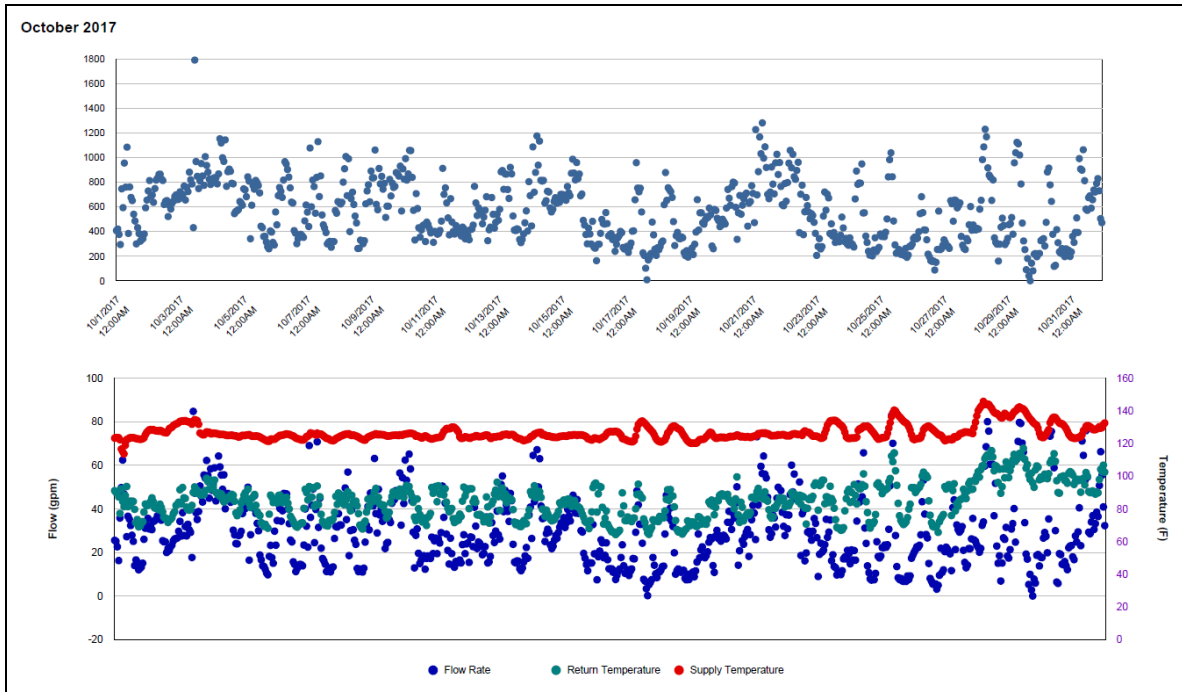
### Explanatory Figure: 13 months energy balance plot with original data.



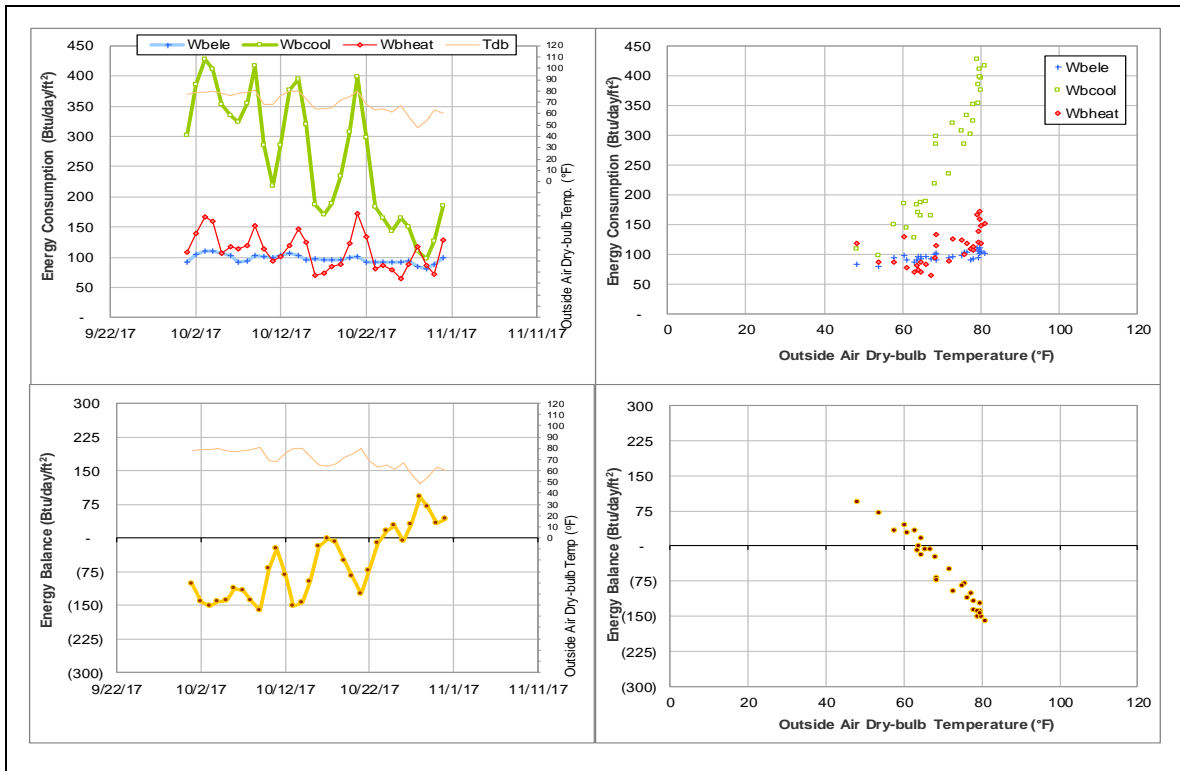
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)*



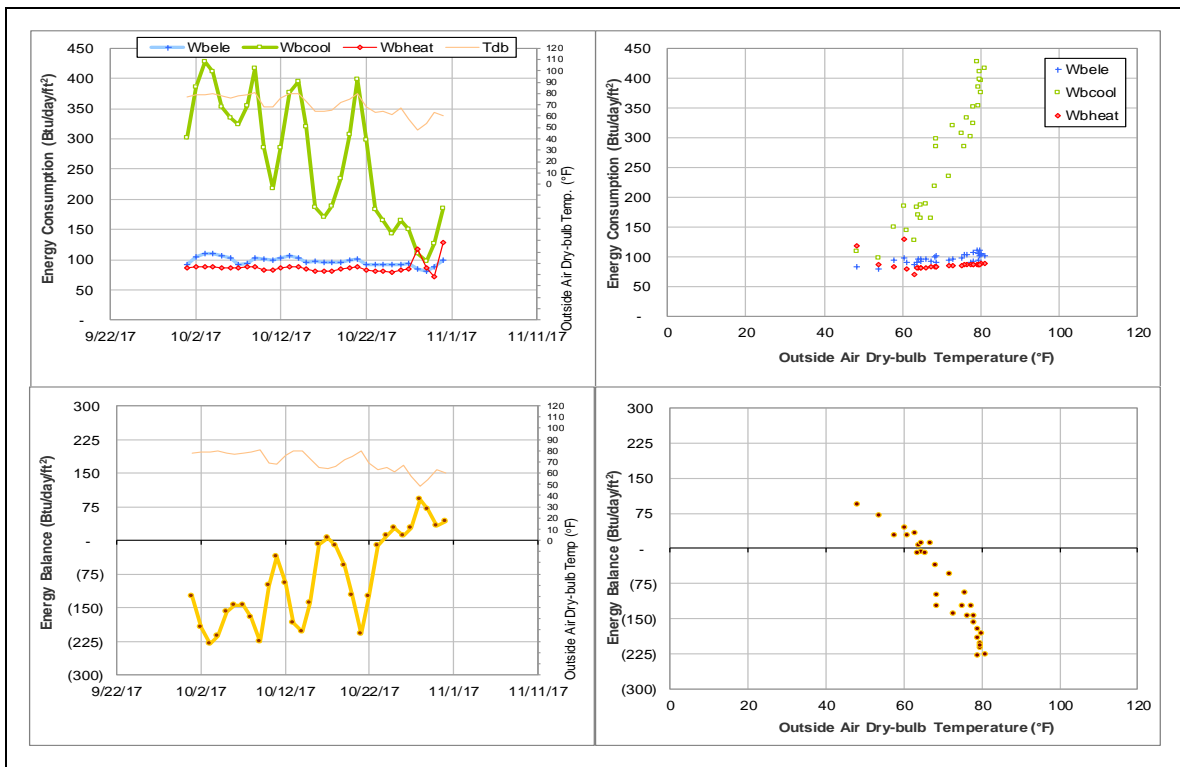
*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## New TVMDL (TAMU Bldg #1809)

### Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	009652	31	10/1/2017 – 10/31/2017	Factor
ELE	009653	5	10/1/2017 – 10/5/2017	Factor

### Detected issues in the energy balance and/or the consumption data

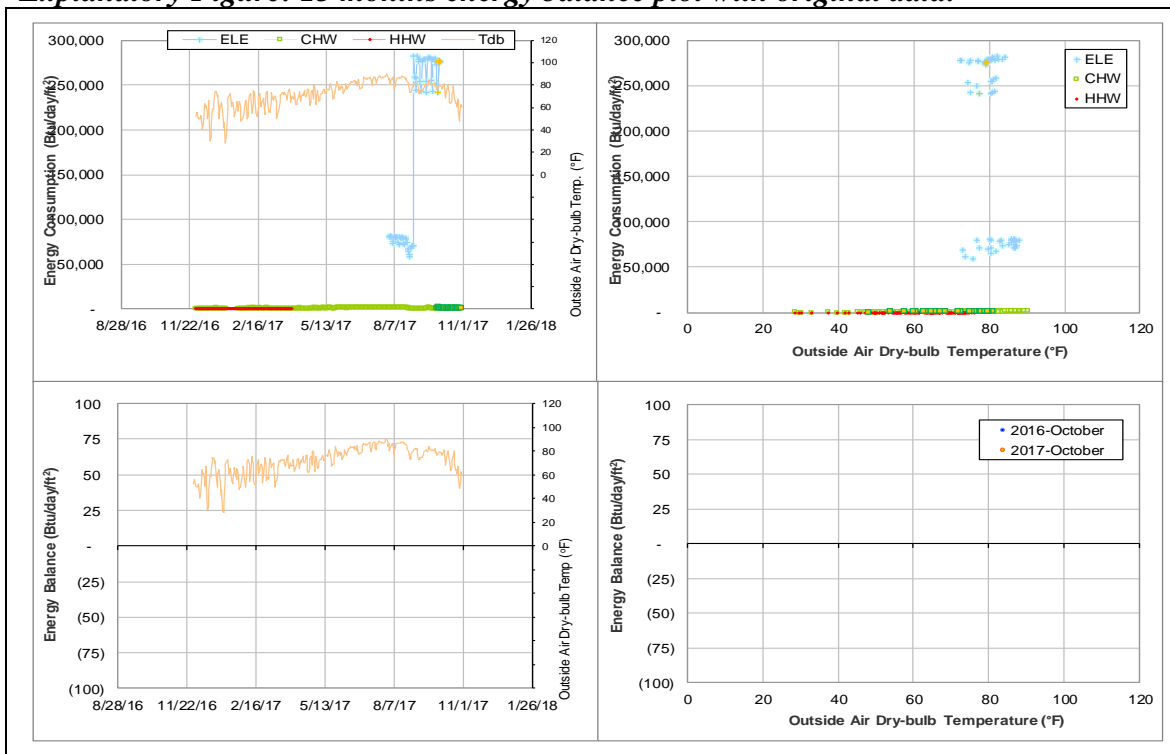
Data Type	Description of data behaviors	Period
ELE	The metered values appear to be faulty.	8/1/2017 – Ongoing

### Quantitative descriptions and comments

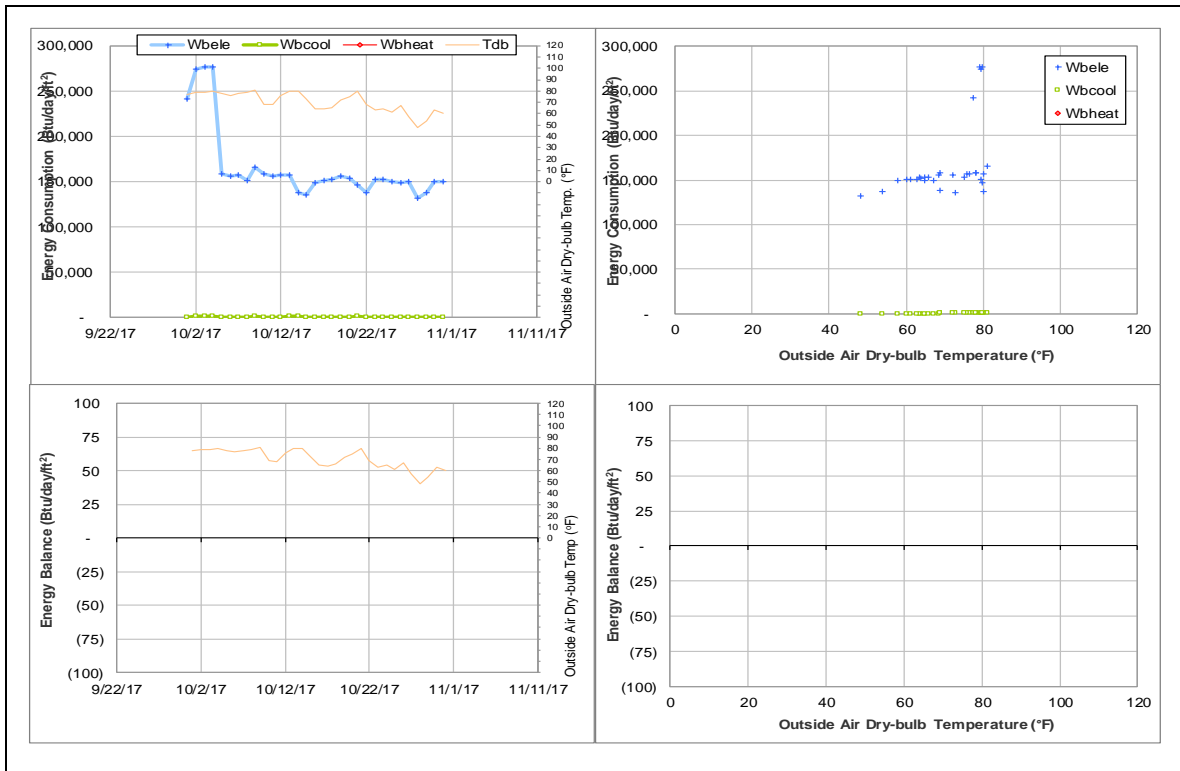
The received ELE data have unnaturally large values. They would fall back to a reasonable level when divided by 1,000.

MID 009653 data are missing starting 10/6/2017. The missing data were estimated by taking average of the available data since August 2017, with weekdays and weekends separated.

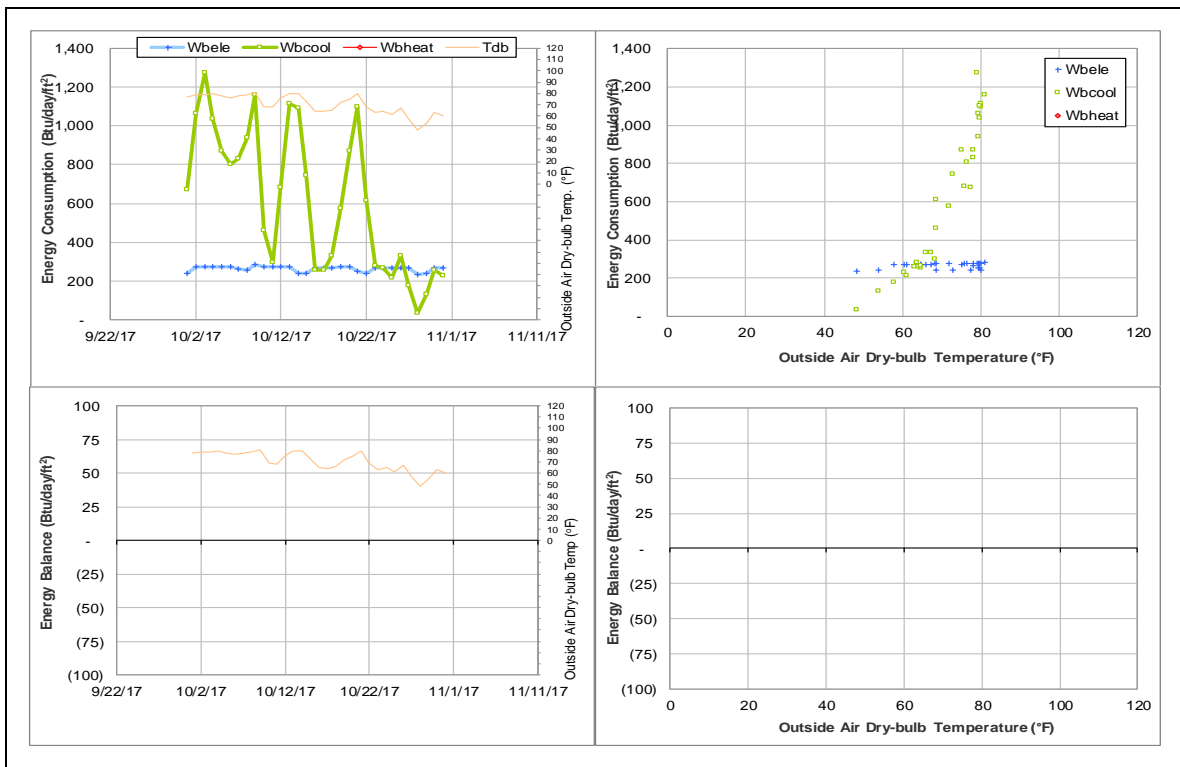
### Explanatory Figure: 13 months energy balance plot with original data.



*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## Multi-Species Research Building (TAMU Bldg #1911)

### *Estimated data*

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	009129	7	10/25/2017 – 10/31/2017	Model
HHW	009133	31	10/1/2017 – 10/31/2017	Model

### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption level is increasing gradually. The consumption level is higher than the level during the past year.	10/25/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	7/13/2017 – Ongoing

### *Changes in sensor readings related to the detected issues*

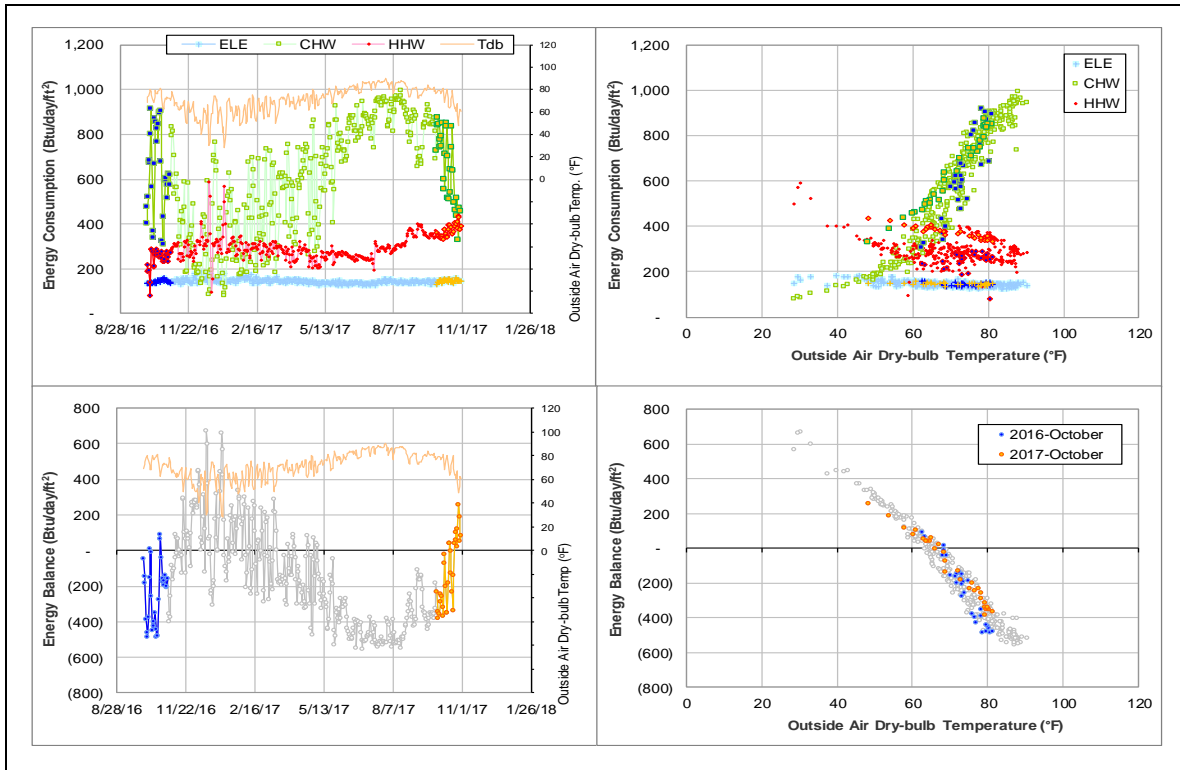
Energy Type	Meter ID	Period	Type	Description
HHW	009133	7/13/2017 – Ongoing	Return temp	Low

### *Quantitative descriptions and comments*

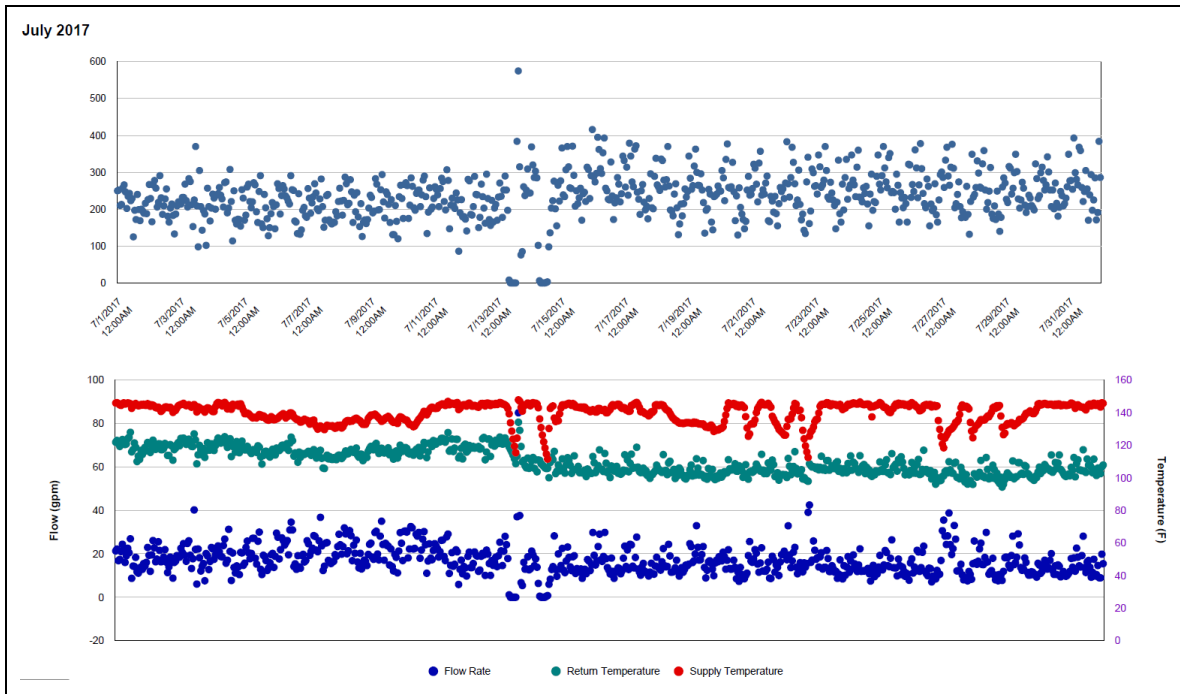
CHW consumption of this building started to increase in the end of October 2017 and went off the main pattern. There is no obvious meter fault observed associated with this change. 10/25/2017 – 10/31/2017 are estimated by model.

Return temperature of HHW decreased on 7/13/2017, resulting in a larger Delta-T and hence higher HHW consumption. The consumption is going further up in August 2017. This period is estimated by model.

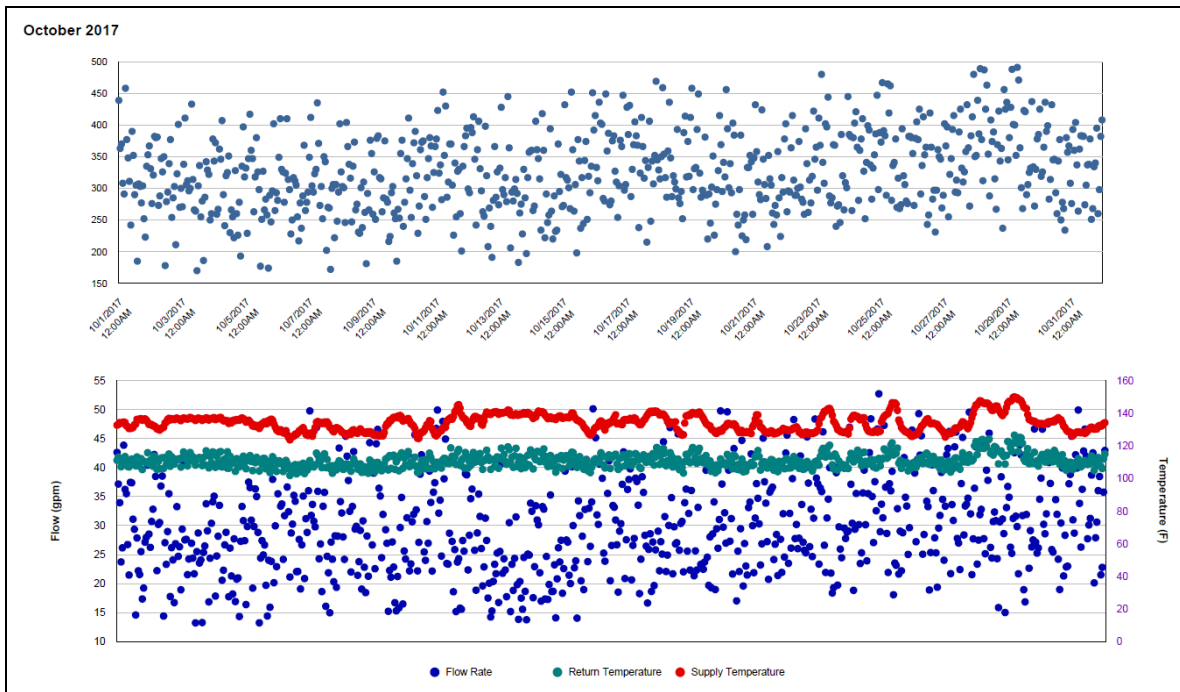
**Explanatory Figure: 13 months energy balance plot with original data.**



*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during July 2017)*

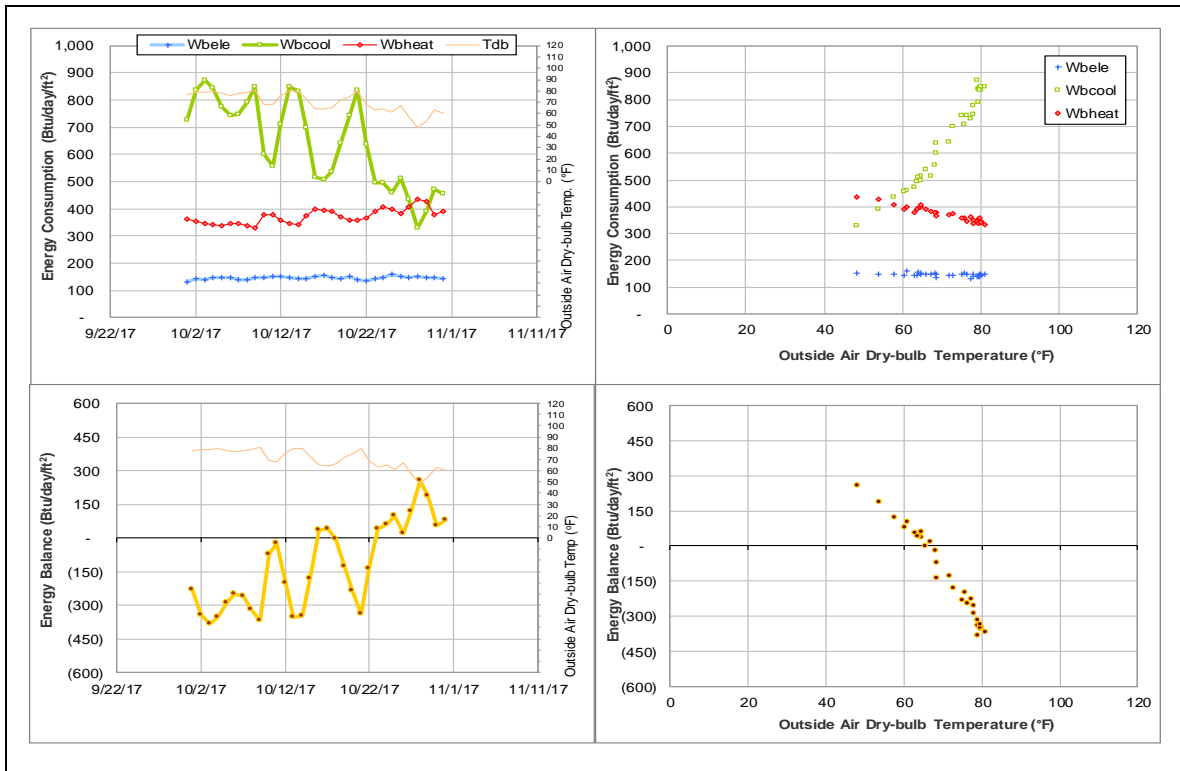


*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*

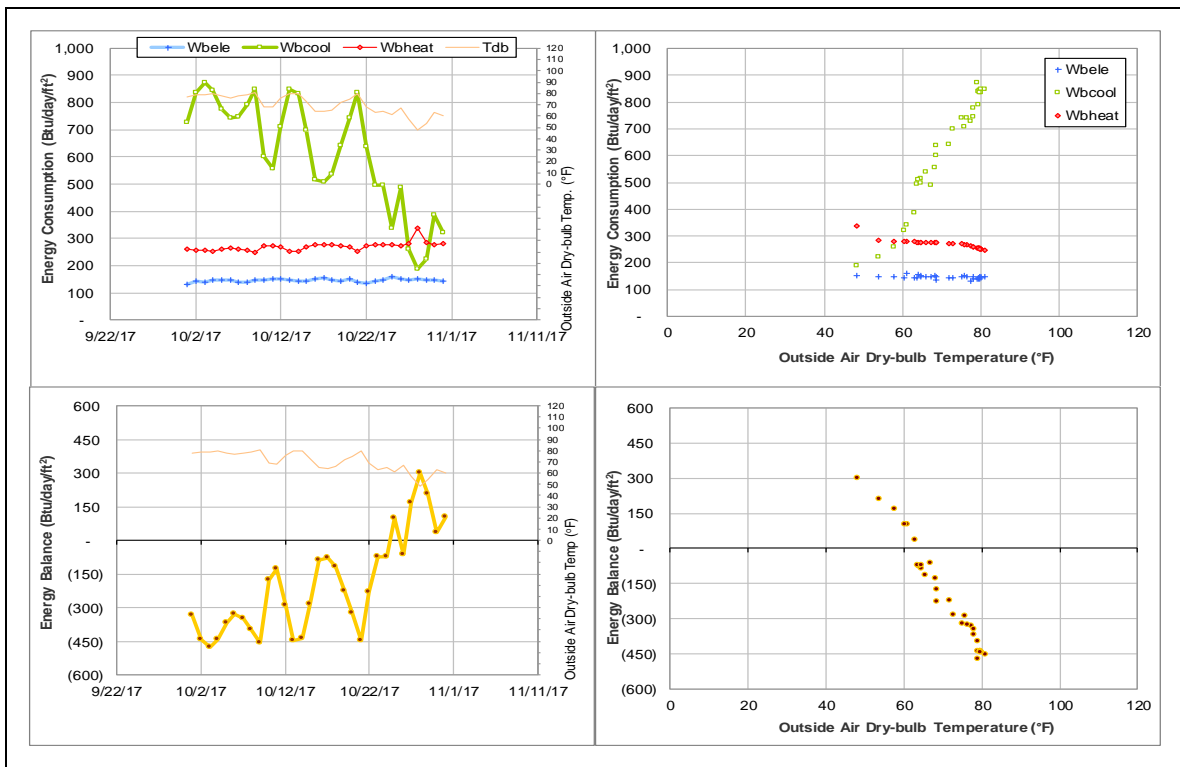




*Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.*



*Energy balance plot using the estimated data for the month of analysis.*



## II-3 Meters with Significant Issues in Energy Consumption Data

In this section, significant issues in the data behavior are described. On the contrary to the section II–2, alternative consumption is not estimated for some reasons: presence of continuous problems since the beginning of the data acquisition, unbalanced energy uses in the past data, changes in the consumption patterns without evidence of data problems, etc. Table II–3 gives a list of meters included in this section.

Table II-3 Meters with significant issues in the consumption data during October 2017

Building No.	Building Name	MeterID	Type	Building No.	Building Name	MeterID	Type
0291	Rudder Residence Hall	002132	CHW	0506	Nagle Hall	001484	ELE
		002136	HHW			003619	CHW
0293	Appelt Residence Hall	002062	CHW			003623	HHW
		002066	HHW	0511	Heep Laboratory Building	005787	ELE
0325 & 0385	CE TTI Office & Lab Building	009123	CHW			005821	CHW
0353	Bright Aerospace Building	002746	CHW			005825	HHW
0394	Underwood Residence Hall	002117	CHW	0516	Computing Services Center	003959	CHW
		002121	HHW	0520	Beutel Health Center	003944	HHW
0398	Langford Architecture Center Building A	003951	CHW	0524	Blocker building	002914	CHW
		003955	HHW			002918	HHW
0419	Legett Residence Hall	000031	ELE	0652	Neeley Residence Hall	002151	HHW
		002218	CHW	0740	McNew Laboratory	005874	ELE
		002222	HHW			005974	CHW
426-427-428	FBK Complex	002848	CHW			005968	HHW
440	Commons Hall	009237	CHW	1041	Texas Vet Med Diagnostic Lab	001466	ELE
433	Mosher Residence Hall	002485	CHW			001539	ELE
		002489	HHW			003817	CHW
442	Dunn Residence Hall	009095	ELE			004137	CHW
443	Oceanography & Meteorology Building	006392	HHW			003821	HHW
463	Psychology Building	002941	CHW			004130	HHW
464	State Chemist Building	005839	ELE	1156	Physical Plant Administration & Shops	007679	CHW
		005837	ELE	1505	Rosenthal Meat Science & Technology Center	002577	HHW
465	Butler Hall	004004	HHW	1509	Medical Sciences Library	000350	ELE
484	Chemistry Building	007557	ELE			003777	CHW
		007152	ELE			003781	HHW
492	Civil Engineering Building	005783	ELE	1536	AgriLife Services Building	007573	HHW
		005950	CHW	1558	Cox-McFerrin Center for Aggie Basketball	007575	CHW
		005954	HHW			007577	HHW
517	DPC Annex	006567	HHW	1601	International Ocean Discovery Building	006351	ELE
0496	Utilities & Energy Services Central Office	007706	ELE			006382	CHW
		006929	CHW			008144	CHW
		006933	HHW			008145	HHW
						009829	HHW
				1604	Offshore Technology Research Center	006660	ELE
				1904	Texas A&M Institute for Preclinical Studies A	006364	ELE
						006365	CHW
						006366	HHW

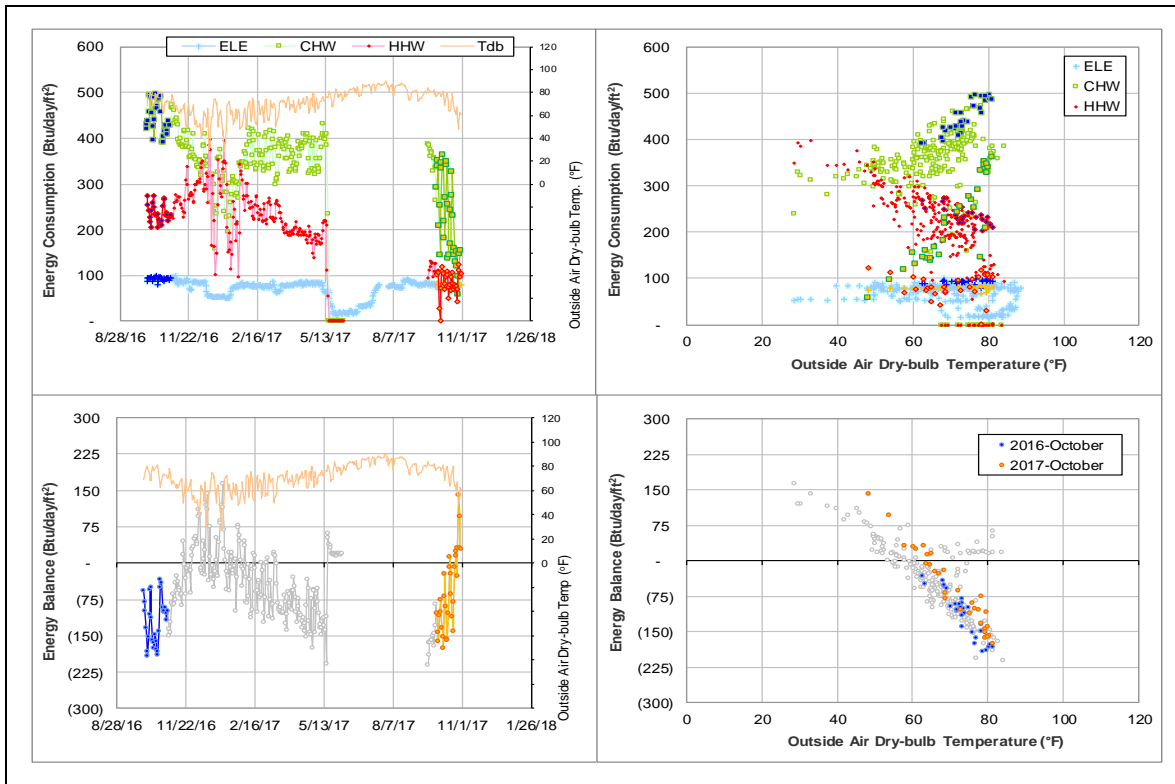
## Rudder Residence Hall (TAMU Bldg #291)

### Comments

This building had renovation in summer of 2017. Both the CHW and HHW data was missing for several months. The data became available on 9/19/2017 with lower consumption level compared to the level before renovation as expected.

The cross-point temperature of energy balance for this building was around 58°F before renovation and it increased slightly now. More data is needed to see how the pattern develops.

**Explanatory Figure: 13 months energy balance plot with original data**



## Appelt Residence Hall (TAMU Bldg #293)

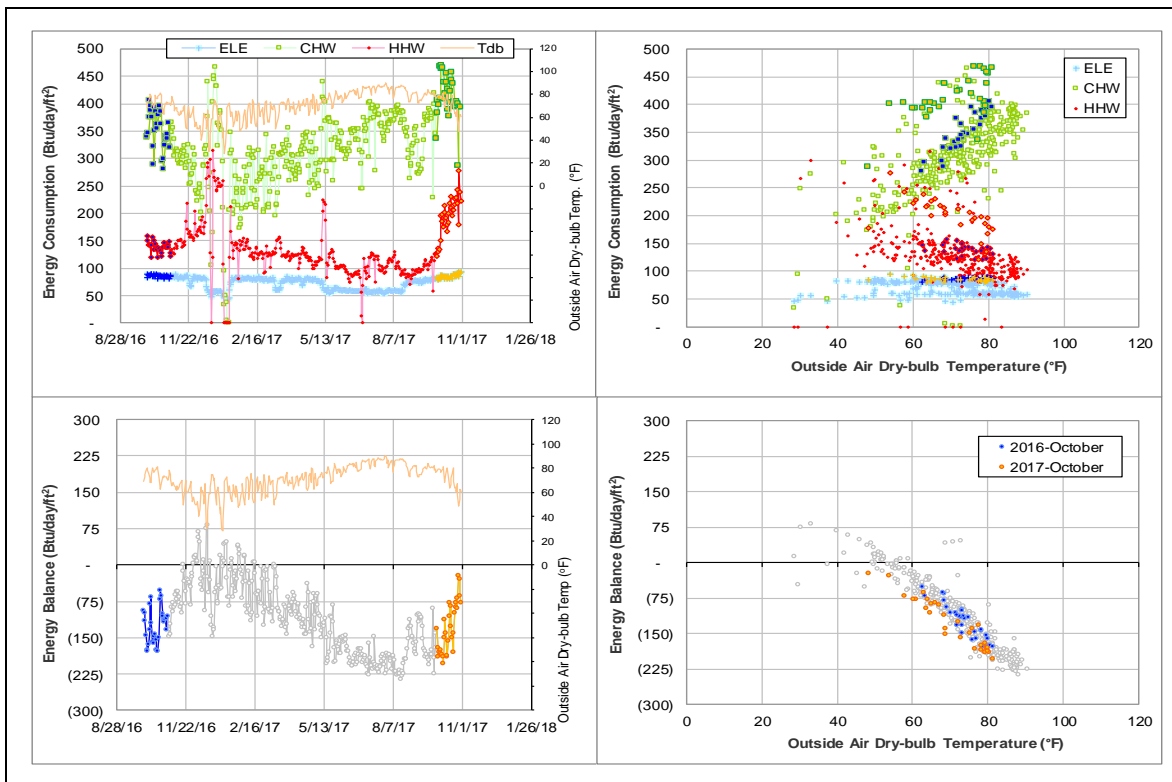
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW and HHW	The consumption level changes frequently	Since December 2014
Energy Balance	The energy balance decreased and the cross-point temperature is around 55°F.	Since January 2015

### *Comments*

Both the CHW and HHW consumption levels have been unstable and changing frequently. The energy balance load was low with the cross-point temperature around 55°F. The low  $E_{BL}$  level suggests an imbalance of metered energy use in the building, but we are not able to determine the cause.

### *Explanatory Figure: 13 months energy balance plot with original data*



## CE TTI Office & Lab Building (TAMU Bldg #325-385)

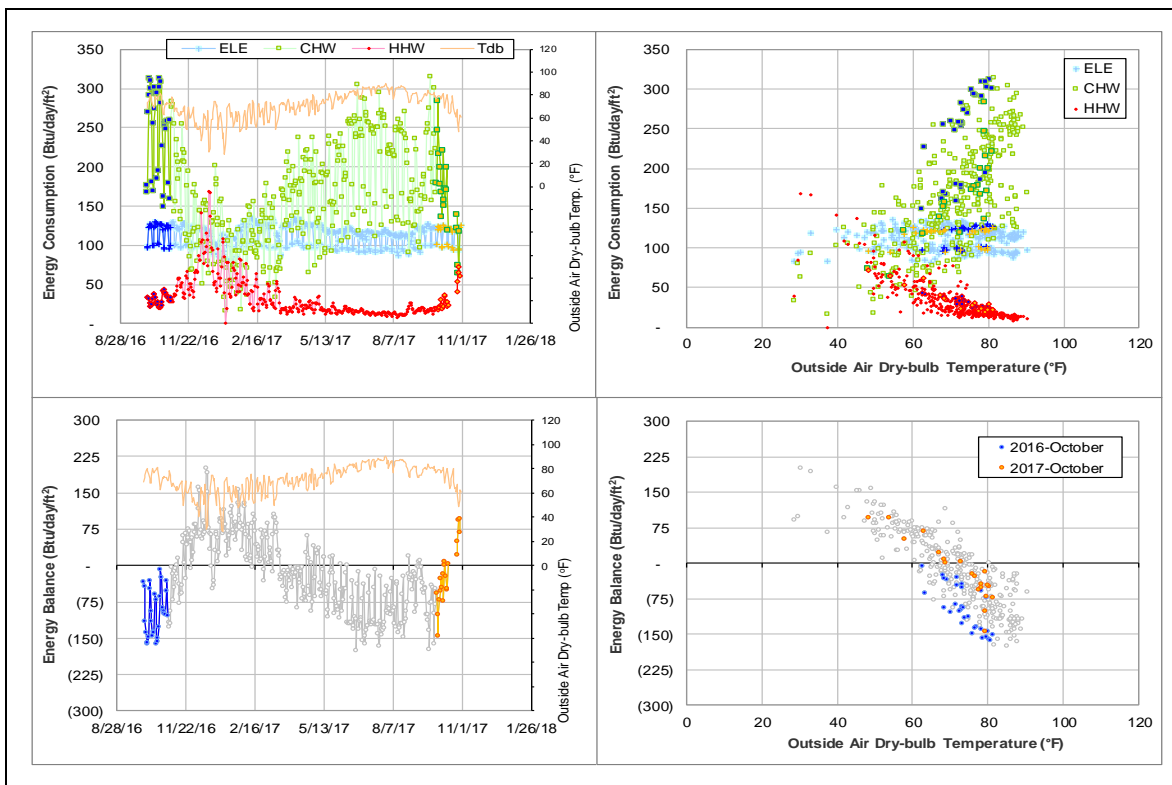
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption level decreased.	Since July 2016

### *Comments*

CHW consumption gradually dropped to a level that is lower than the past year by 50 – 100 Btu/day/ft<sup>2</sup>. No obvious sensor reading behavior anomaly is observed. More data is needed to see how the pattern develops.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Bright Building (TAMU Bldg #353)

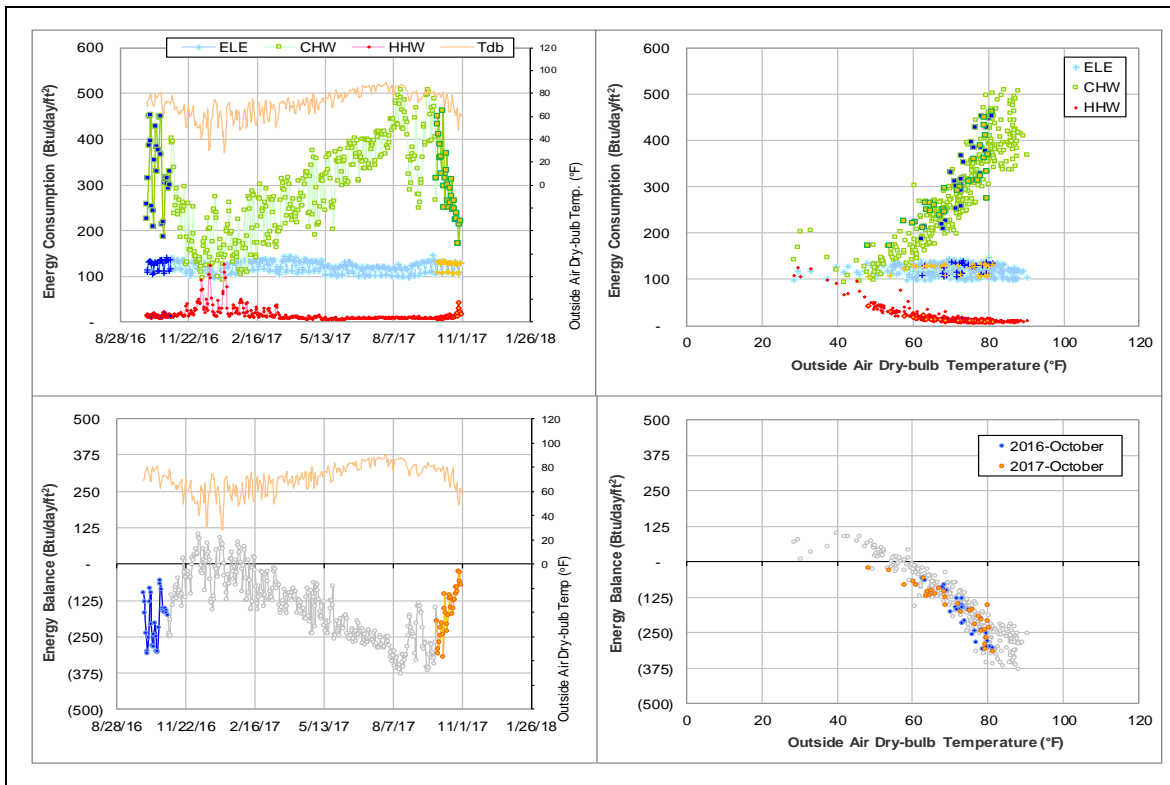
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance level has been low for years. The cross-point temperature was in the range of 40 - 70 °F.	For several years
CHW	The consumption pattern changed.	Since July 2016

### *Comments*

The energy balance load ( $E_{BL}$ ) of this building has varied but always been low (the cross-point temperature was between 40°F and 70°F) for years. CHW consumption increased greatly on 7/21/2016 and switched to a new pattern with a steeper slope. The cross-point temperature is around 55°F which has been stable for one year but it is still a little low.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Underwood Residence Hall (TAMU Bldg #394)

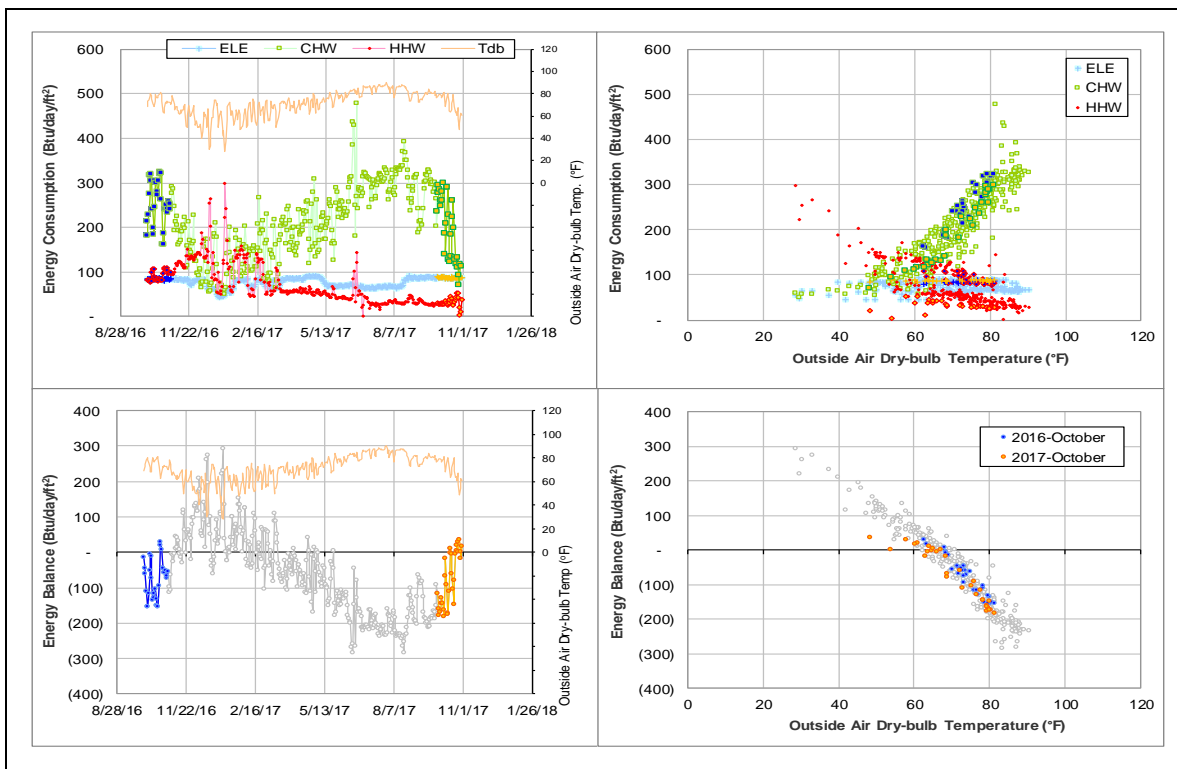
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption pattern is unstable.	9/1/2016 - ongoing
HHW	The consumption pattern is unstable.	9/1/2016 - ongoing

### *Comments*

The CHW and HHW consumption has decreased since the data return in September 2016. There seem to be two different patterns forming, especially for HHW. More data is needed to see how the pattern develops.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Langford Architecture Center Building A (TAMU BLDG #398)

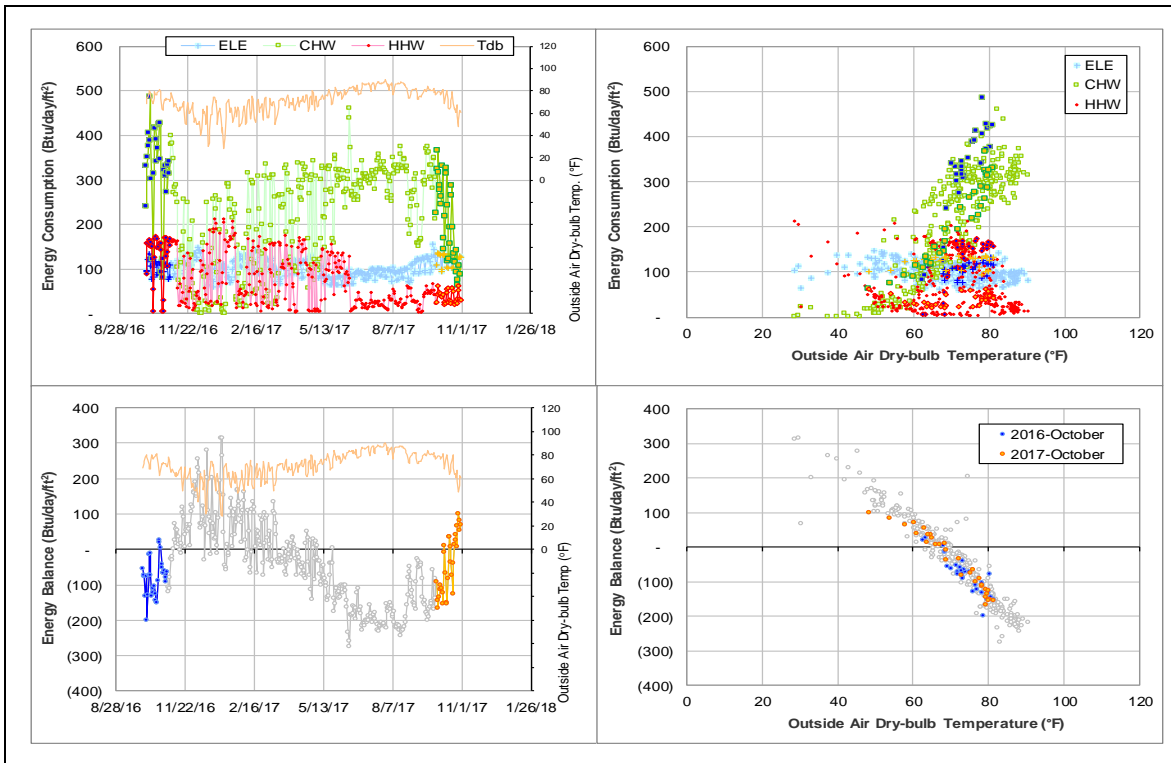
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW and HHW	The consumption has been fluctuating greatly.	For several years

### *Comments*

CHW and HHW consumption has been unstable for several years. HHW flow rate can be seen going up and down between a maximum level and a very low level. The energy balance, however, is not disturbed during these fluctuations.

### *Explanatory Figure: 13 months energy balance plot with original data*





## Legett Residence Hall (TAMU BLDG #419)

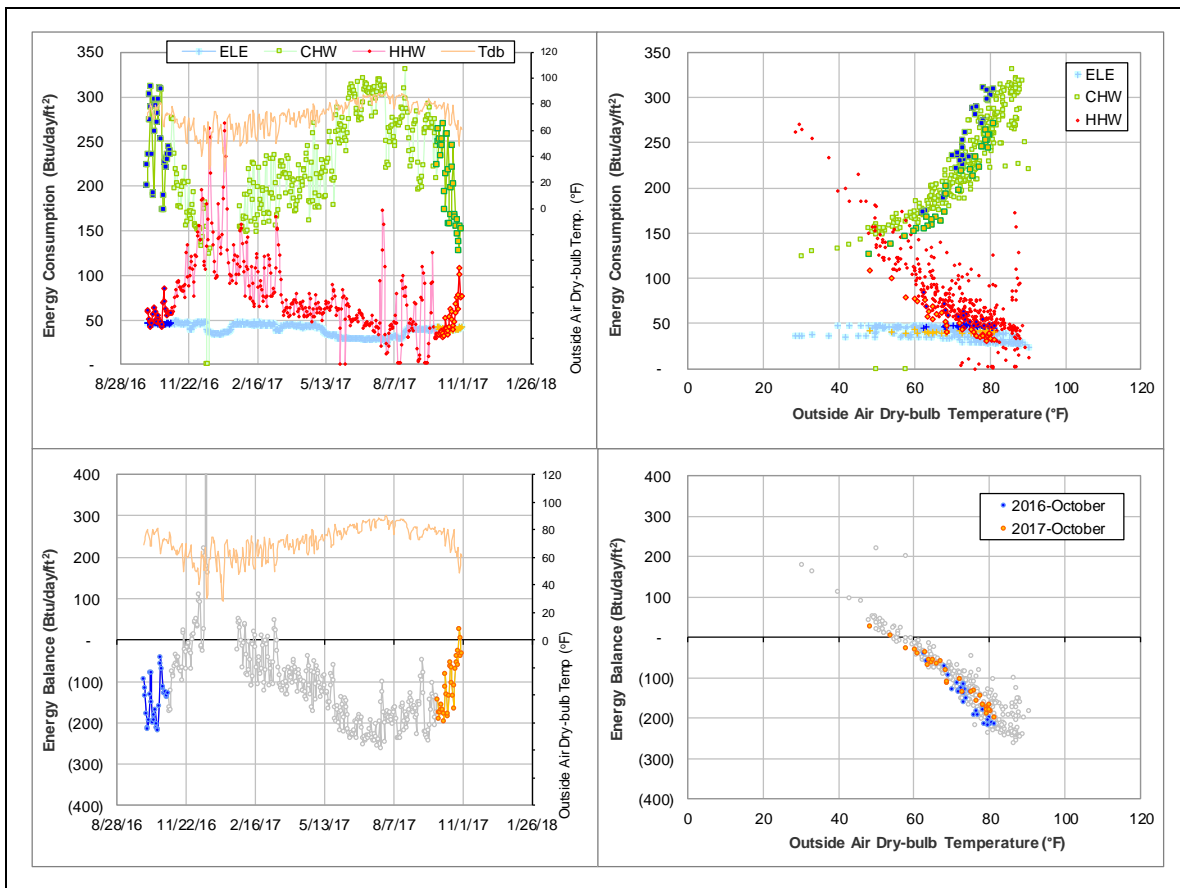
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE	The consumption decreased after the missing period.	Since October 2016
CHW	The consumption increased after the missing period.	Since October 2016
HHW	The consumption decreased after the missing period.	Since October 2016
EB	The cross-point moved from 68°F to 55°F.	Since October 2016

### *Comments*

After the missing period from May to October 2016, ELE and HHW consumption decreased and CHW consumption increased. EB cross-point moved from 68°F to 55°F since then.

### *Explanatory Figure: 13 months energy balance plot with original data (The plot is rescaled to remove the spikes.)*



## FHK Complex (TAMU Bldg #426-427-428)

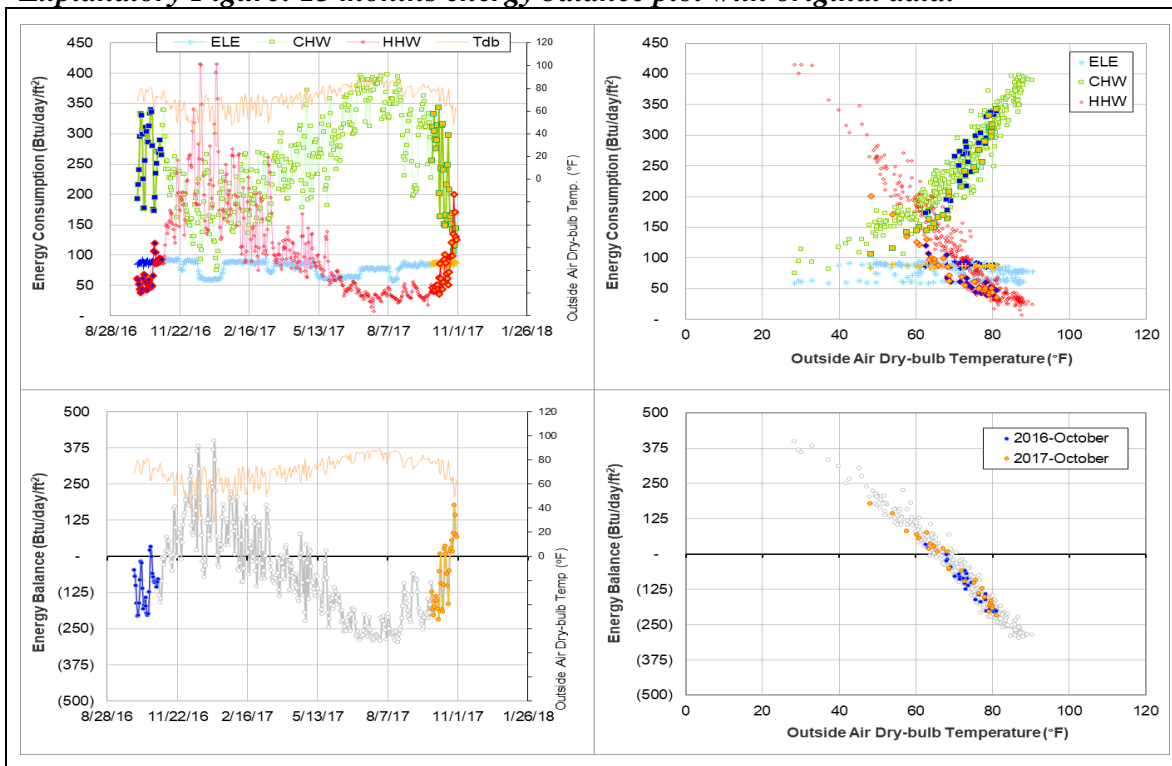
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW/HHW	The consumption pattern has changed.	September 2017 – Ongoing

### *Comments*

The CHW and HHW consumption pattern has changed starting September 2017. The most notable changes is seen at cooler temperatures with CHW decreasing up to 55 Btu/day/ft<sup>2</sup> and HHW decreasing up to 65 Btu/day/ft<sup>2</sup>. The energy balance shows no change and maintains a change-point temperature around 68 °F. This does not appear to be a meter issue.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Mosher Residence Hall (TAMU Bldg #433)

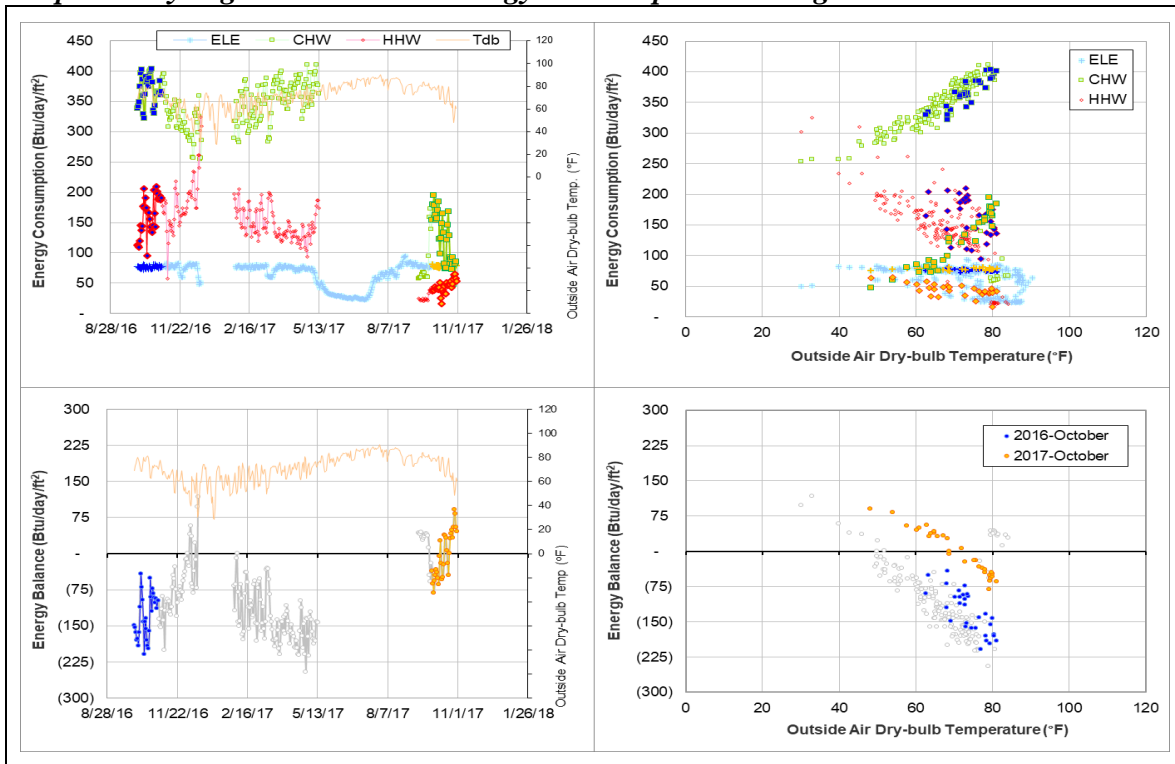
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW/HHW	The consumption pattern has changed.	August 2017 – Ongoing

### *Comments*

The Mosher Residence Hall underwent HVAC renovation during the summer of 2017. Upon completion of the new HVAC system, the CHW and HHW experienced a significant decrease in consumption. The CHW consumption decreased by 230 Btu/day/ft<sup>2</sup> (58%) in warmer temperatures and by 240 Btu/day/ft<sup>2</sup> (84%) in cooler temperatures. The HHW consumption decreased by 63 Btu/day/ft<sup>2</sup> (61%) in warmer temperatures and by 120 Btu/day/ft<sup>2</sup> (65%) in cooler temperatures. The energy balance change-point temperature increased from 51°F to 71°F.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Commons Hall (TAMU Bldg #440)

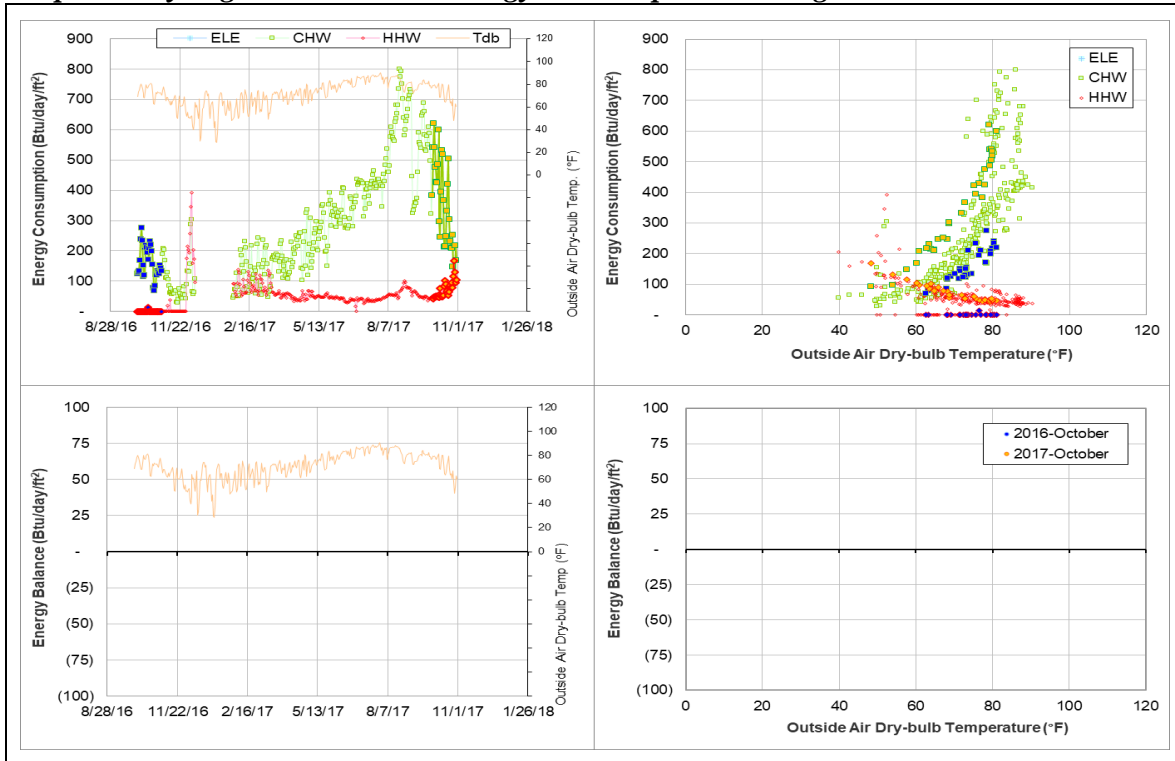
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption pattern has changed. The consumption level has increased suddenly.	August 2017 – Ongoing

### *Comments*

Commons Hall recently underwent renovation in 2016. The study/activity area was completed by January 2017 and the dining facility was later completed in August 2017. The dining facility accounts for almost half the square footage of Commons Hall. The CHW consumption increased more notably in warmer temperatures by 120 – 200 Btu/day/ft<sup>2</sup> (25% – 33%) and by 80 Btu/day/ft<sup>2</sup> (53%) in the cooler temperatures.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Dunn Residence Hall (TAMU Bldg #442)

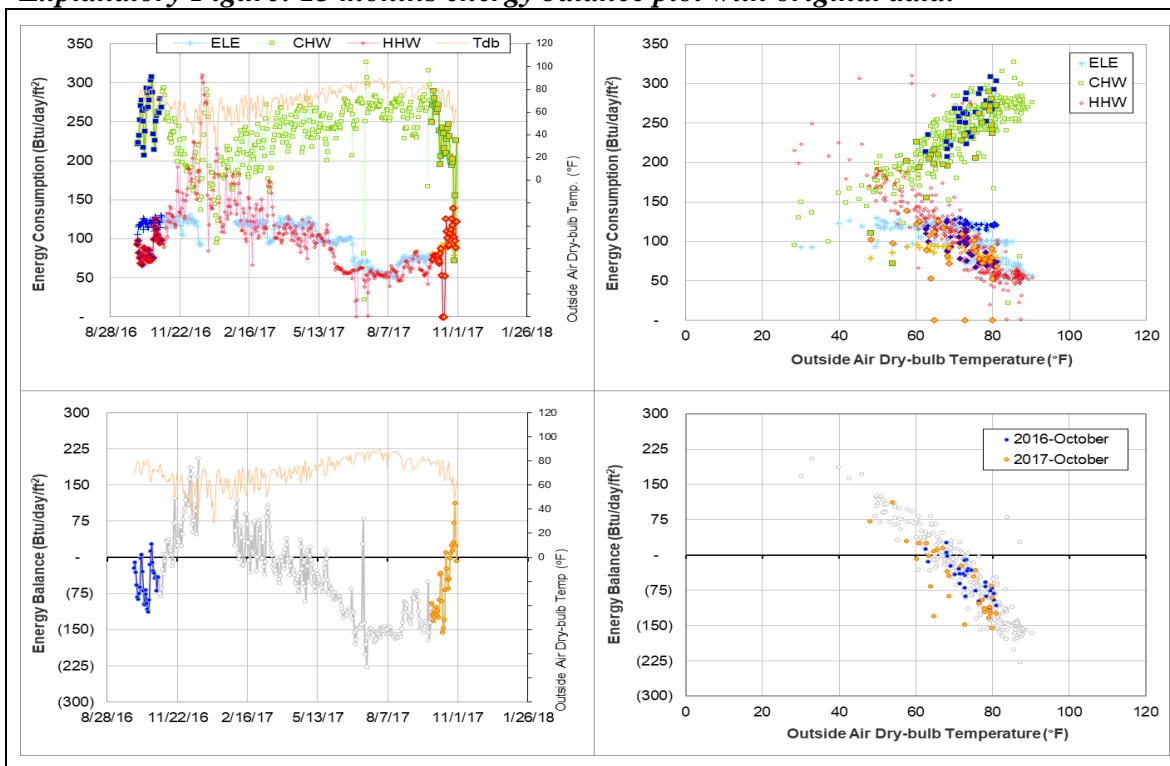
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE	The consumption pattern has changed.	July 2017 – Ongoing

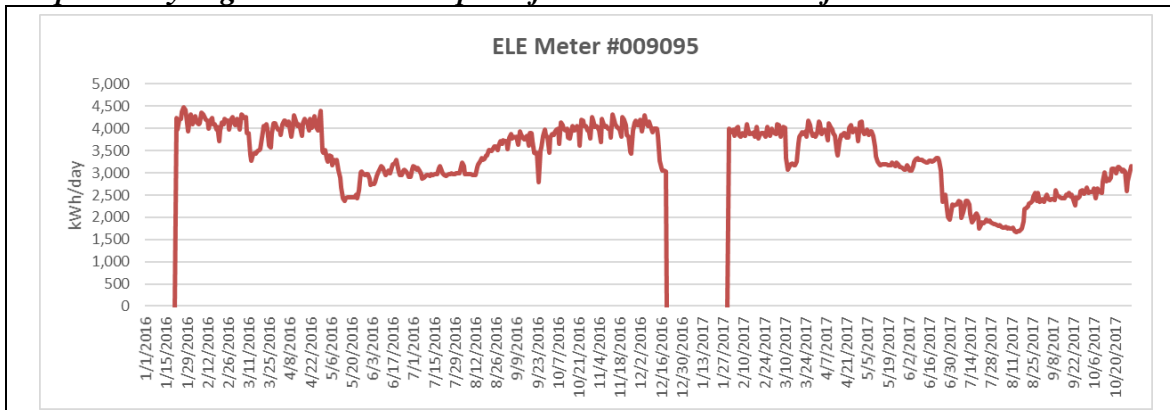
### *Comments*

The consumption pattern for ELE changed starting around July 2017. The ELE pattern from July to mid-August was 30 Btu/day/ft<sup>2</sup> (34%) lower than last year. With the start of the semester, the ELE pattern only increased to a 75 Btu/day/ft<sup>2</sup> range, which is 37 Btu/day/ft<sup>2</sup> (33%) lower than last year. We would like to know if there has been any operational change for this building.

### *Explanatory Figure: 13 months energy balance plot with original data.*



### *Explanatory Figure: Time series plot of ELE meter #009095 from 1/1/2016 – 10/31/2017.*



## Oceanography & Meteorology Building (TAMU Bldg #443)

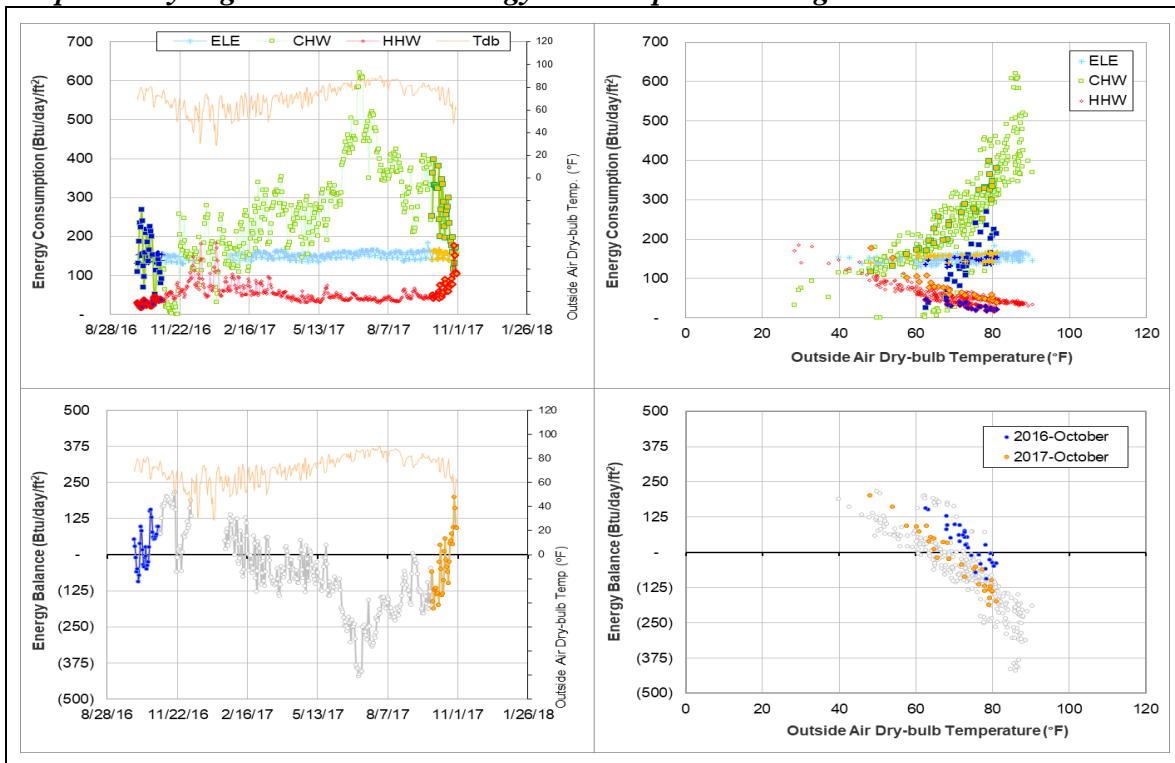
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
HHW	The consumption pattern has changed.	May 2017 – Ongoing

### *Comments*

Starting in May 2017, the HHW consumption pattern increased for Oceanography and Meteorology Building. The pattern increased 30 Btu/day/ft<sup>2</sup> (162%) in warmer temperatures and 34 Btu/day/ft<sup>2</sup> (59%) in cooler temperatures.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Psychology Building (TAMU Bldg #463)

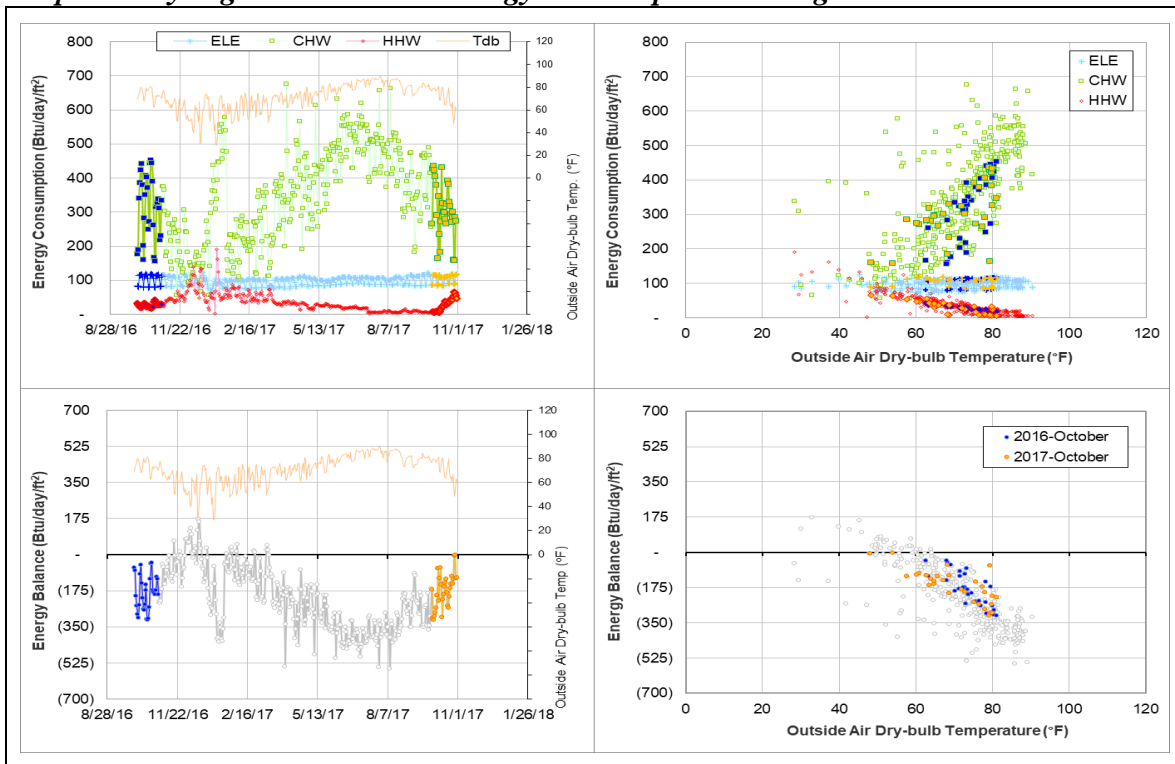
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy balance	The energy balance cross-point temperature is low.	Starting in 2015
CHW	The consumption pattern versus ambient temperature scatters.	Ongoing after ESCO implementation in 2011

### *Comments*

The CHW consumption pattern versus ambient temperature started to scatter after ESCO implementation in 2011. The scatter started to decrease and a weekday/weekend pattern appeared in 2016. The cross-point temperature for this building over the past three years has been low with a range from 50 – 60 °F. More information is needed to determine the cause of the low temperature range.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## State Chemist Building (TAMU Bldg #464)

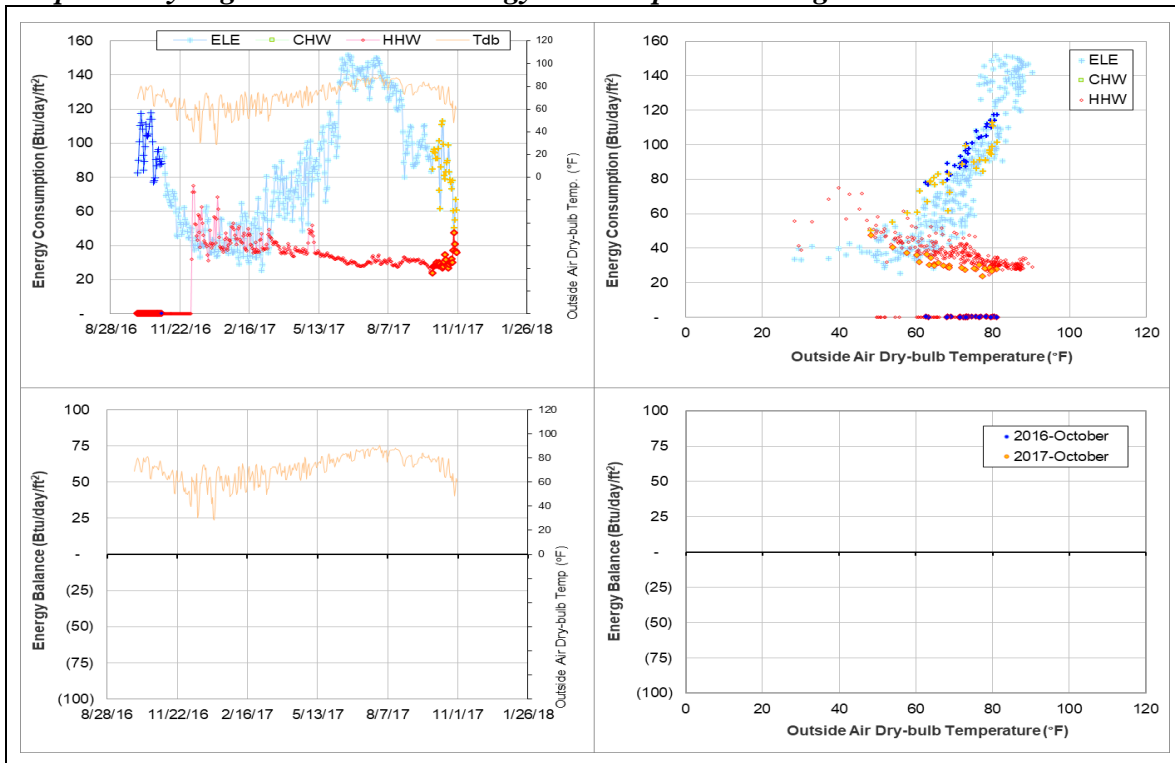
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE #005387	The consumption level decreased especially in low temperature ranges.	11/20/2016 – 10/13/2017
	Scattering data are observed.	6/7/2017 – Ongoing

### *Comments*

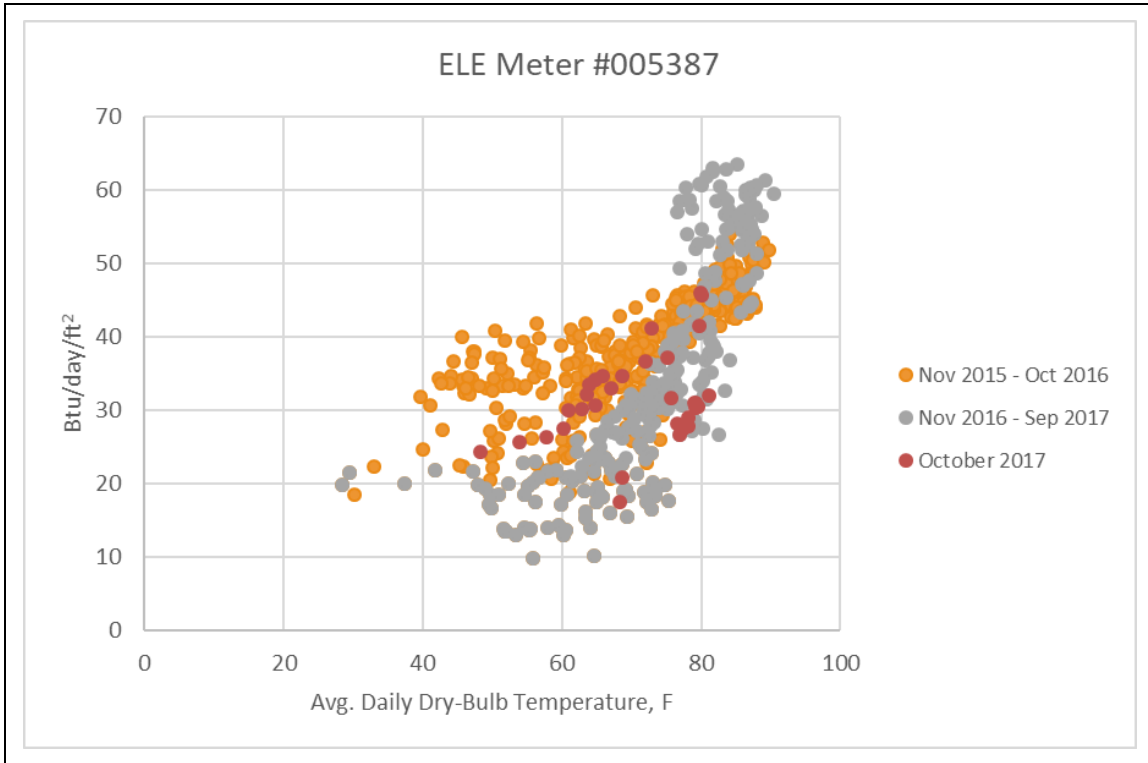
There are two ELE meters (#005837 and #005839) for this building. Starting in November 2016, the electric consumption pattern for meter #005837 has changed and the data appears scattered. The new pattern decreased in cooler temperatures by 13 Btu/day/ft<sup>2</sup> and increased in warmer temperatures by 10 Btu/day/ft<sup>2</sup>. The pattern's slope became steeper. On 11/13/2017, there has been a noticeable increase in electric consumption by 11 – 13 Btu/day/ft<sup>2</sup>. Explanatory figures showing the change before and after November 2016 are provided below.

### *Explanatory Figure: 13 months energy balance plot with original data.*

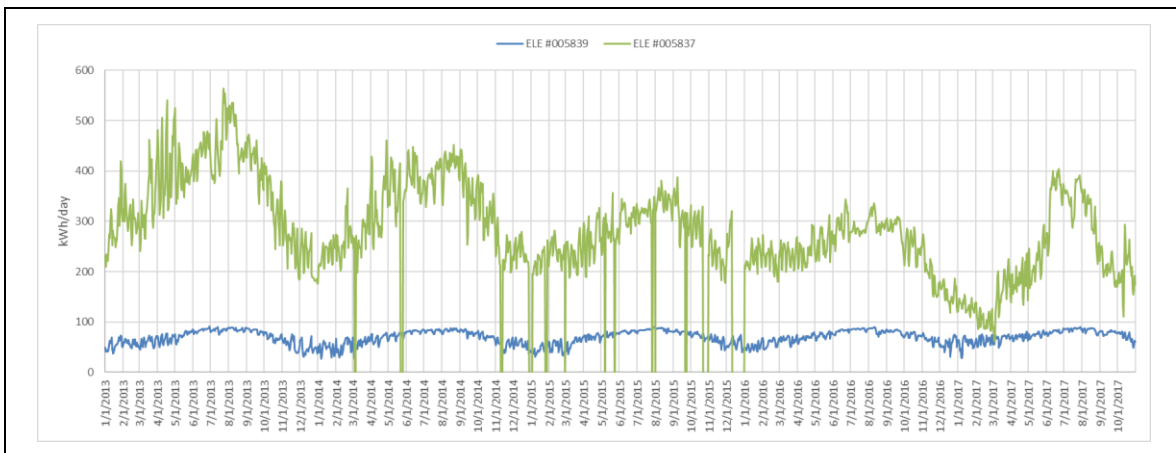




***Explanatory Figure: Scatter plot of daily ELE energy consumption for meter #005837 versus outside dry-bulb temperature.***



***Explanatory Figure: Times series plot of hourly ELE energy consumption for meter #005837 (green) and #005839 (blue) for Jan 2013 through Oct 2017.***



## Chemistry Building (TAMU Bldg #484)

### *Detected issues in the energy balance and/or the consumption data*

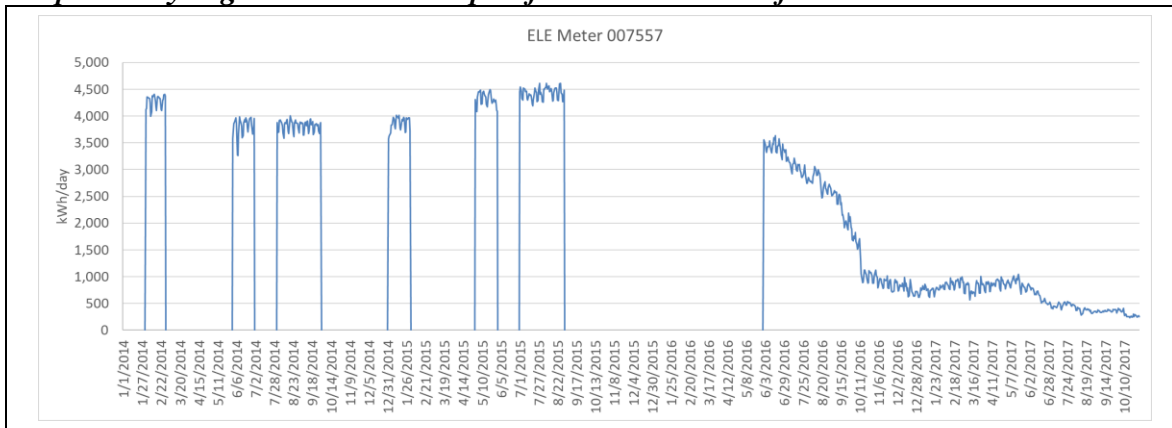
Data Type	Description of data behaviors	Period
ELE #007557	The ELE consumption level has decreased significantly for meter #007557.	6/1/2016 – Ongoing
ELE #007152	The consumption level is increasing gradually for meter #007152.	6/3/2017 – Ongoing

### *Comments*

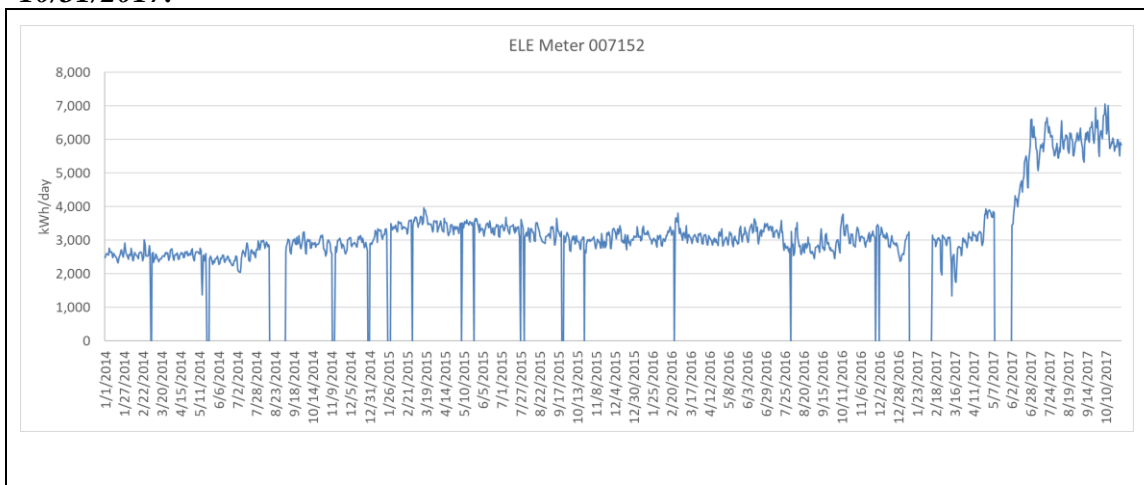
Two of the four ELE meters for this building experienced a change in energy consumption level. ELE meter #007557 consumption decreased gradually during 6/1/2016 – 8/31/2016 by over 2000 kWh/day and then decreased further on 6/17/2017 by another 500 kWh/day. On 10/11/2017, electric consumption decreased again by almost 100 kWh/day.

ELE meter #007152 consumption gradually increased after a missing period (5/10/2017 – 6/2/2017) by about 3000 kWh/day.

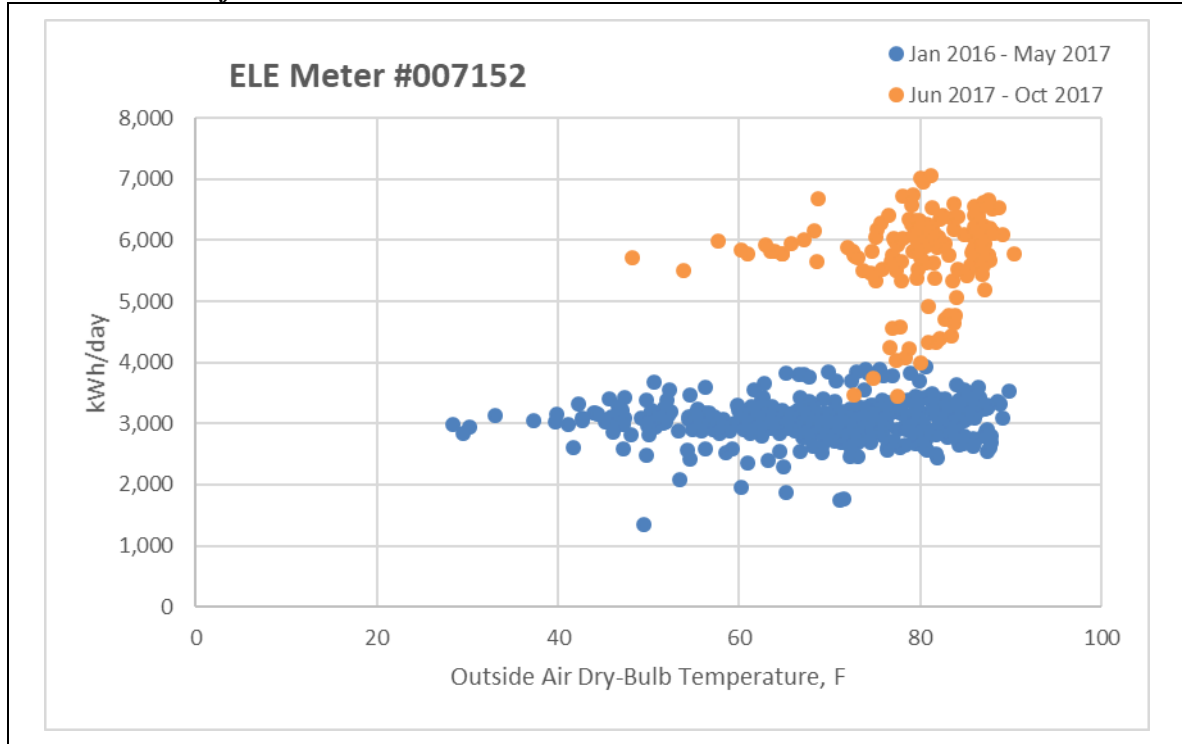
### *Explanatory Figure: Times series plot for meter #007557 from 1/1/2014 – 10/31/2017.*



### *Explanatory Figure: Time series plot of electric meter #007152 from 1/1/2016 – 10/31/2017.*



***Explanatory Figure: Scatter plot of kWh/day versus outside air temperature for electric meter #007152 from 1/1/2016 – 10/31/2017.***



## Civil Engineering Building (TAMU Bldg #492)

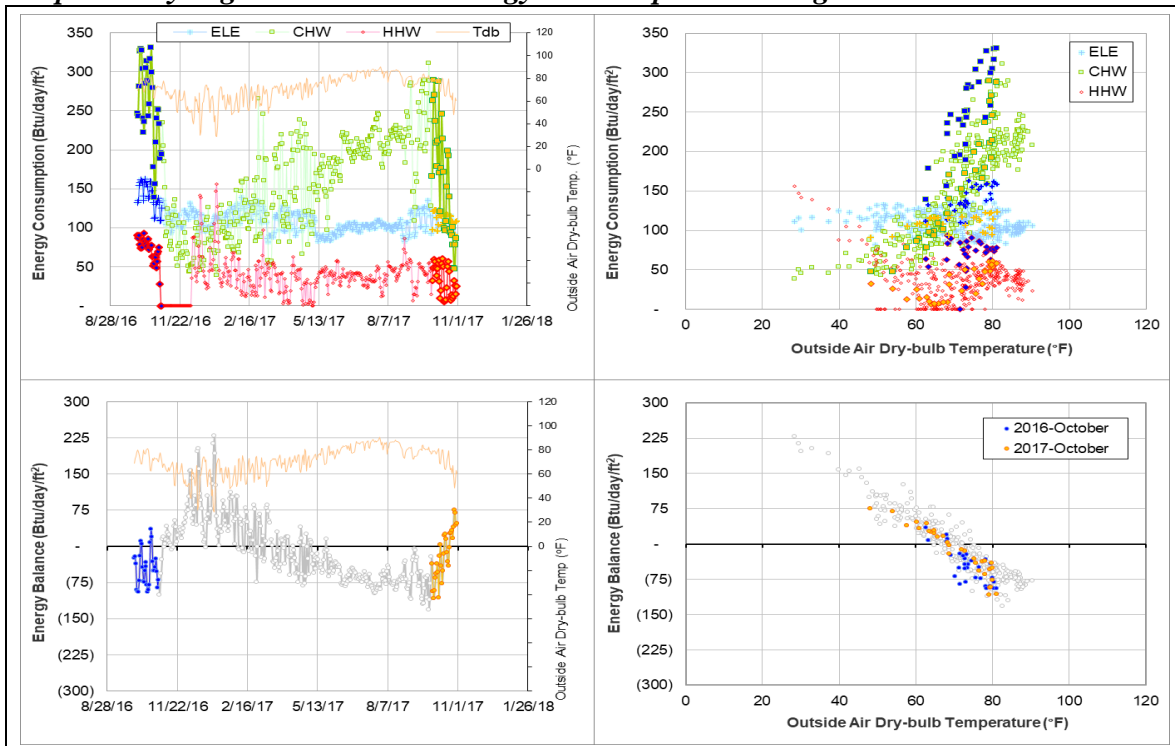
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE/CHW/HHW	The consumption level decreased.	10/29/2016 – Ongoing

### *Comments*

Starting 10/29/2016, the ELE, CHW, and HHW consumption levels decreased and continued to remain low. Excluding HHW meter issue from 10/29/2016 – 12/7/2016 (zero flow rate and near zero delta-T), the lower consumption levels may be due to ESCO.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## DPC Annex (TAMU Bldg #517)

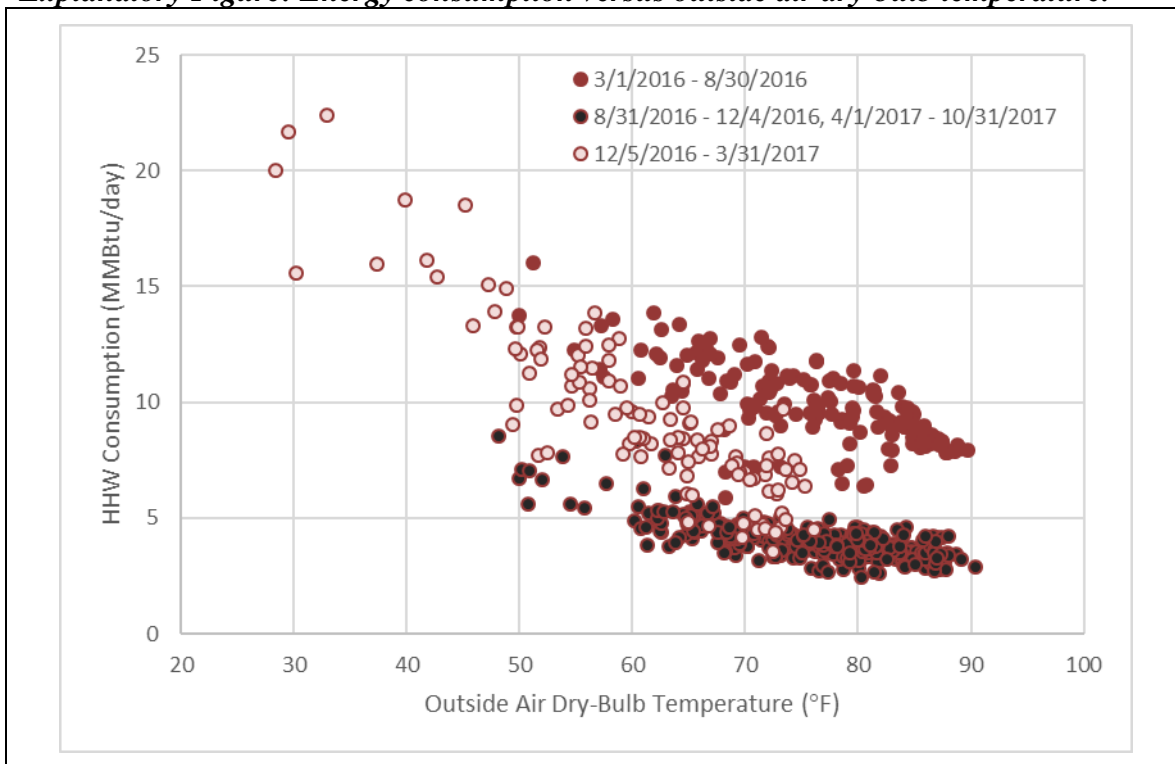
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
HHW	The HHW consumption level decreased.	8/31/2016 – Ongoing

### *Comments*

Starting 8/31/2016, the HHW consumption level decreased dropping clearly below the main pattern until 12/4/2016. The data from 12/5/2016 to 3/31/2017 appears between the main pattern and the lower pattern. However, starting April 2017 the data returned to the lower pattern. This does not appear to be a meter issue. More data is needed to see how the pattern continues.

### *Explanatory Figure: Energy consumption versus outside air dry-bulb temperature.*



## Utilities & Energy Services Central Office (TAMU Bldg #496)

### *Detected issues in the energy balance and/or the consumption data*

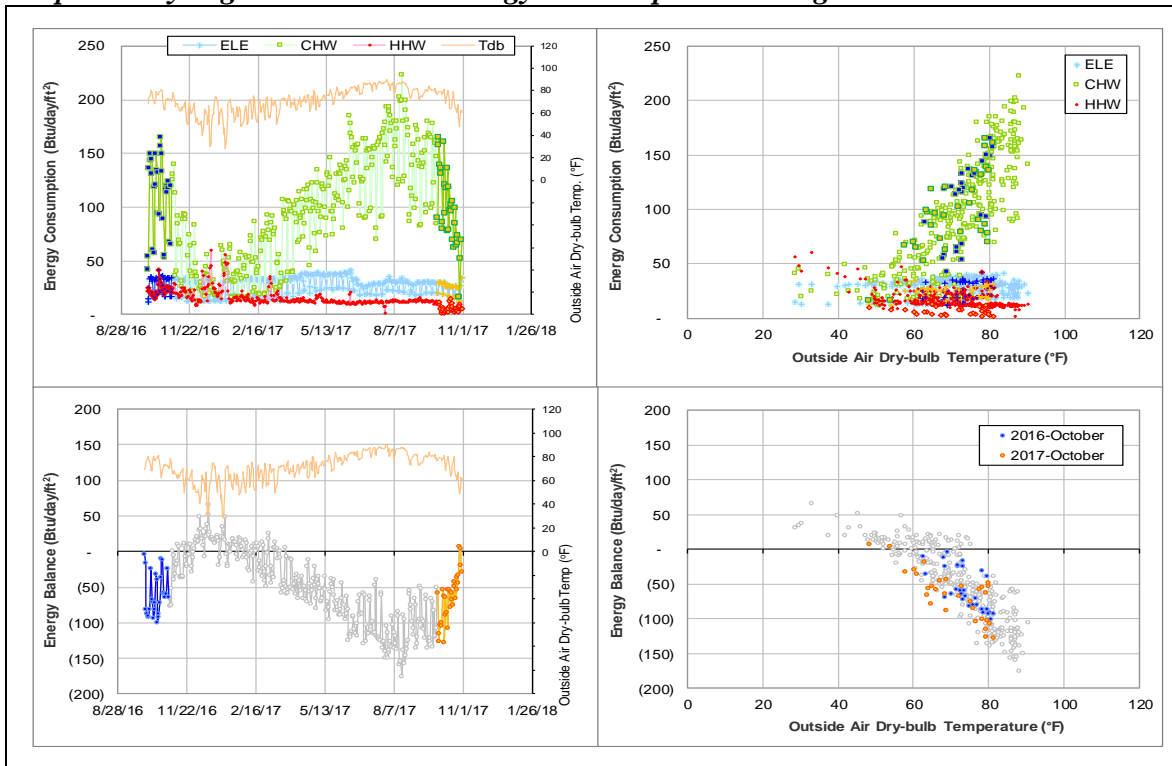
Data Type	Description of data behaviors	Period
ELE, CHW, and HHW	The energy use per unit floor area is low compared to other buildings.	Since the data became available on 7/1/2012

### *Comments*

The peak electric use intensity is around 0.65 W/ft<sup>2</sup>, which is small for an office building on campus. The delta-T for HHW seems to be small for years. The CHW and HHW consumption per unit floor area also seem to be low. It is possible that the GSF on file (46,110 ft<sup>2</sup>) includes substantial unoccupied or unconditioned areas. The CHW consumption during the winter break period (12/23/2016 – 12/31/2016) is lower than previous winter break periods but does not appear to be a meter issue.

The energy balance scatter is due to the consumption level changes for CHW and HHW. The cross-point temperature of the energy balance is in the range of 50 to 75°F.

### *Explanatory Figure: 13 months energy balance plot with original data.*



## Nagle Hall (TAMU Bldg #506)

### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy Balance	The level was low and the cross-point temperature is around 50°F.	Since the data became available
ELE	The consumption per unit floor area is smaller than those for other similar office buildings, and has been decreasing gradually in the past 4 years.	Since the data became available
CHW HHW	The consumption levels decreased.	October 2017

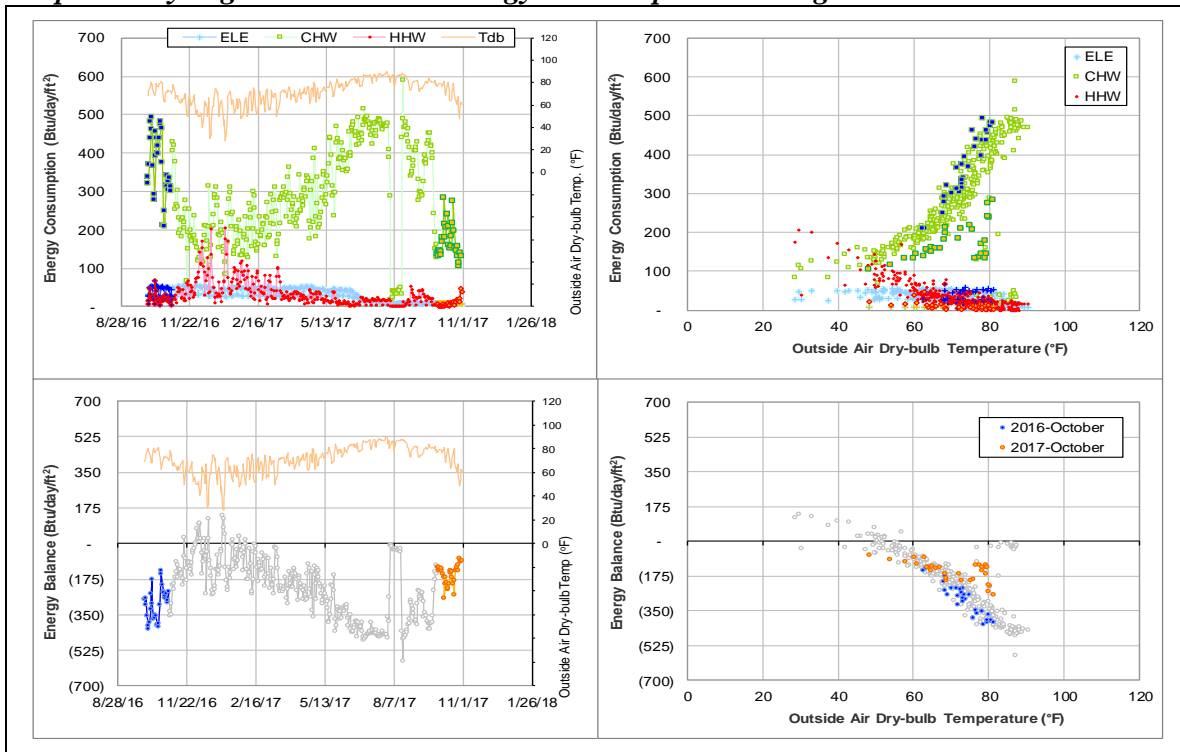
### *Comments*

The ELE consumption is lower than 50 Btu/day/ft<sup>2</sup>, lower than the typical level of 100 Btu/day/ft<sup>2</sup> for office buildings on campus. This meter might not cover the whole building or it is erroneously factored. The ELE consumption decreased further in July 2017, which could be related to the renovation.

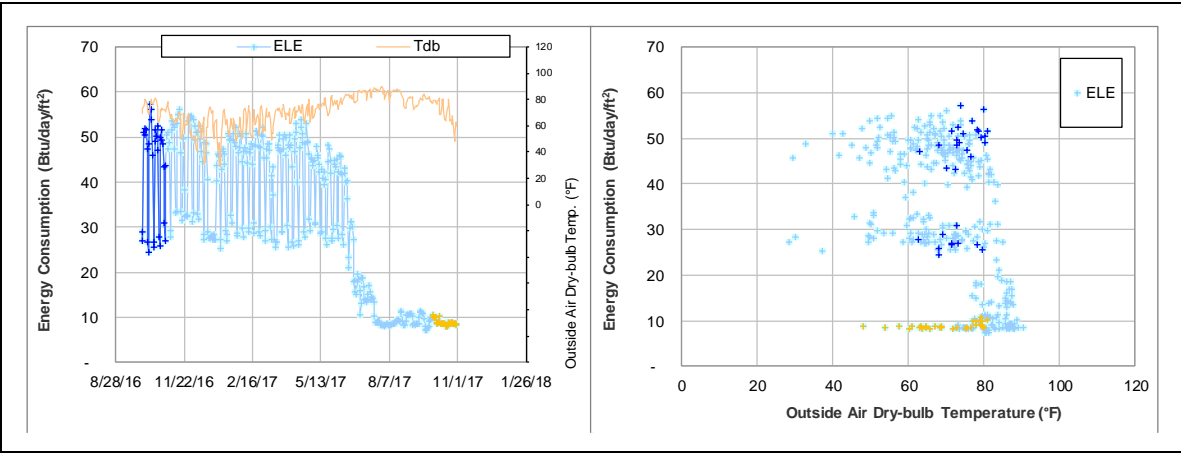
The CHW and HHW consumption levels also decreased in October 2017, but the patterns do not look problematic. It is reported this building is undergoing renovation.

See also II-2.

### *Explanatory Figure: 13 months energy balance plot with original data.*



*Explanatory Figure: 13 months ELE consumption plot with original data*





## Heep Laboratory Building (TAMU Bldg #511)

### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE	The consumption is decreasing gradually.	Since February 2017
CHW	The consumption dropped and the meter seems to be faulty.	Since April 2017
HHW	The flow rate dropped and became unstable.	Since May 2017

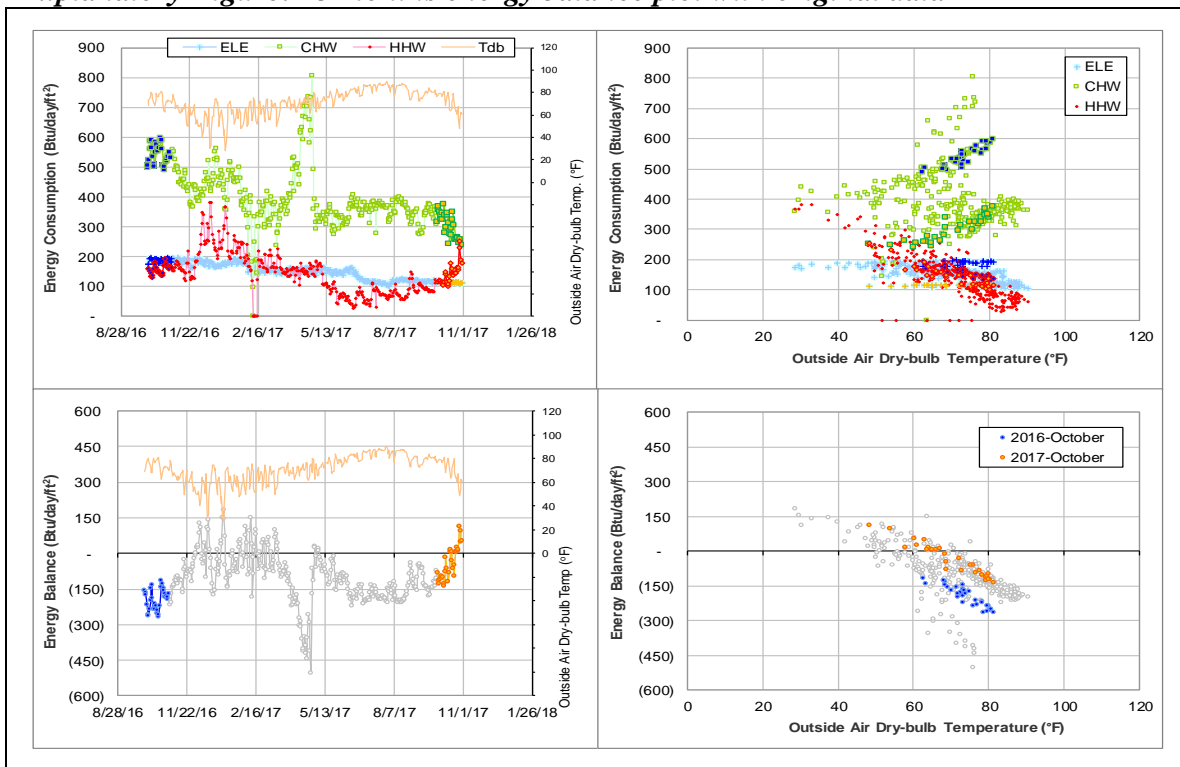
### *Comments*

The ELE consumption gradually slid down from near 200 Btu/day/ft<sup>2</sup> at the beginning of February 2017 to about 160 Btu/day/ft<sup>2</sup> at the beginning of May 2017. The consumption level further dropped to 110 – 120 Btu/day/ft<sup>2</sup> during summer. There is no identified cause of this change.

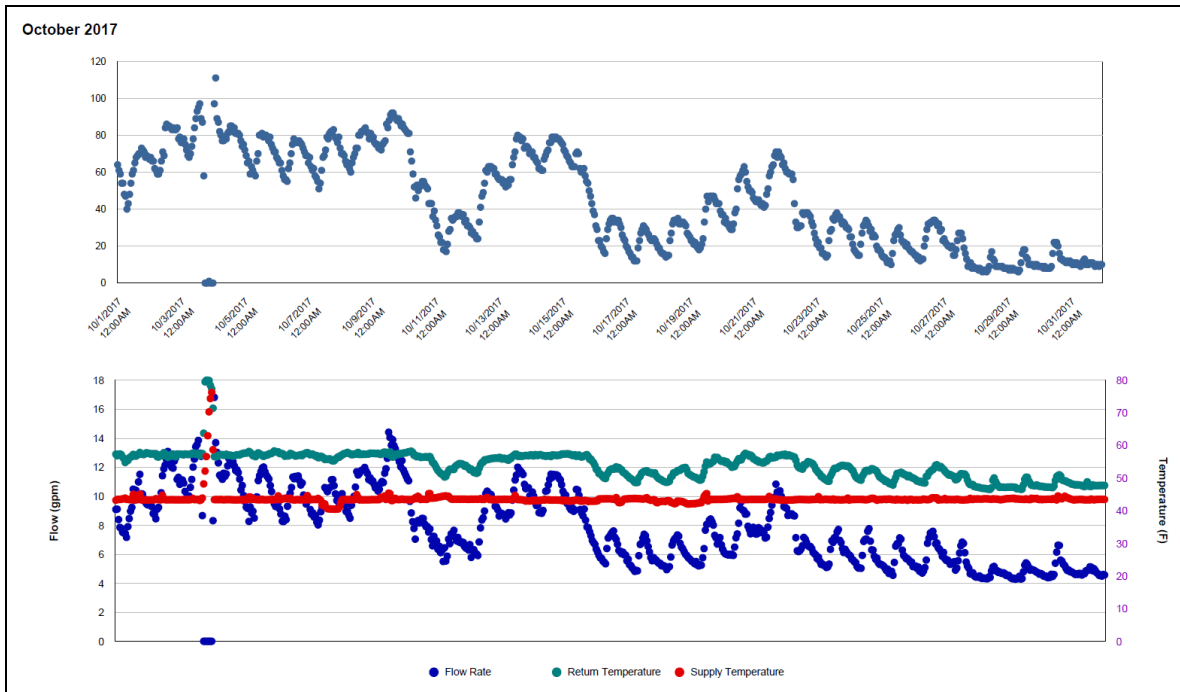
The CHW supply temp sensor appears to be faulty. The supply temp readings started to drift in the end of March 2017 and decreased to 35°F during April 2017. On 4/27/2017, the supply temp value jumped to 44°F. By comparing this value with the two hydrologically closest buildings #0471 Pavilion and #0444 Peterson, it is suspected that this meter is still under-calibrated (See the explanatory figure).

The HHW flow rate dropped on 5/8/2017 and became unstable.

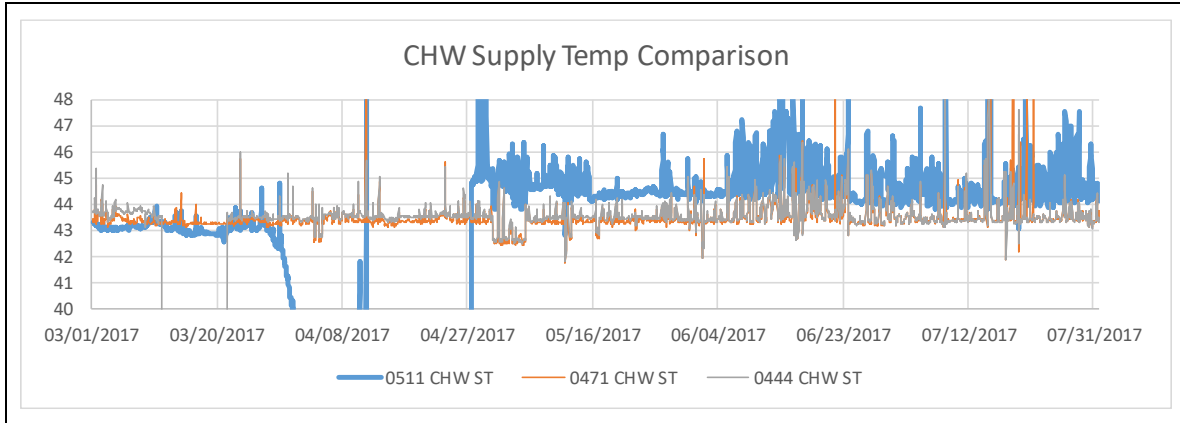
### *Explanatory Figure: 13 months energy balance plot with original data*



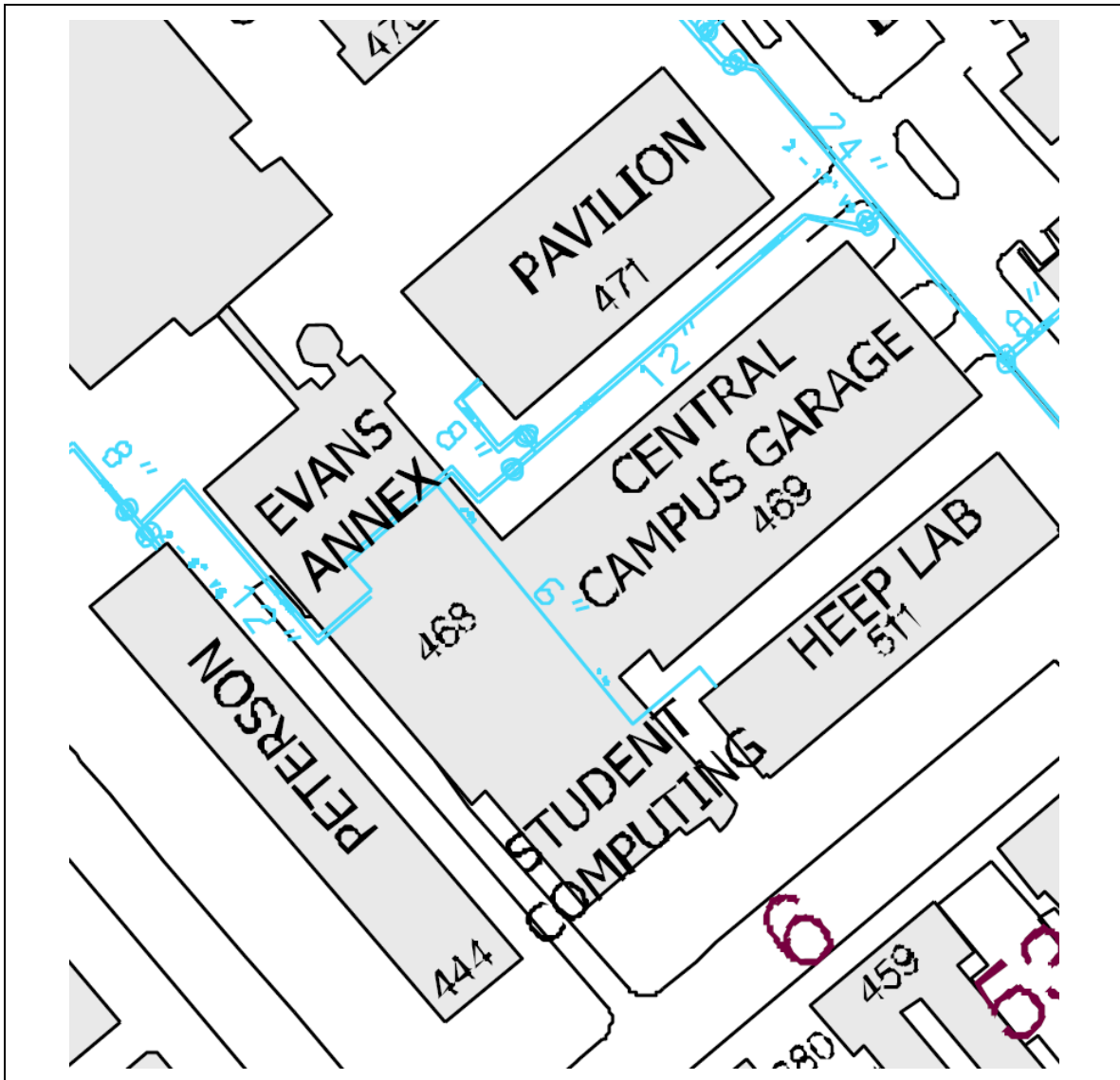
***Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during October 2017)***



***Explanatory Figure: CHW supply temp comparison of hydrologically closest buildings.***



*Explanatory Figure: CHW pipeline map near #0511.*



## Computing Services Center (TAMU Bldg #516)

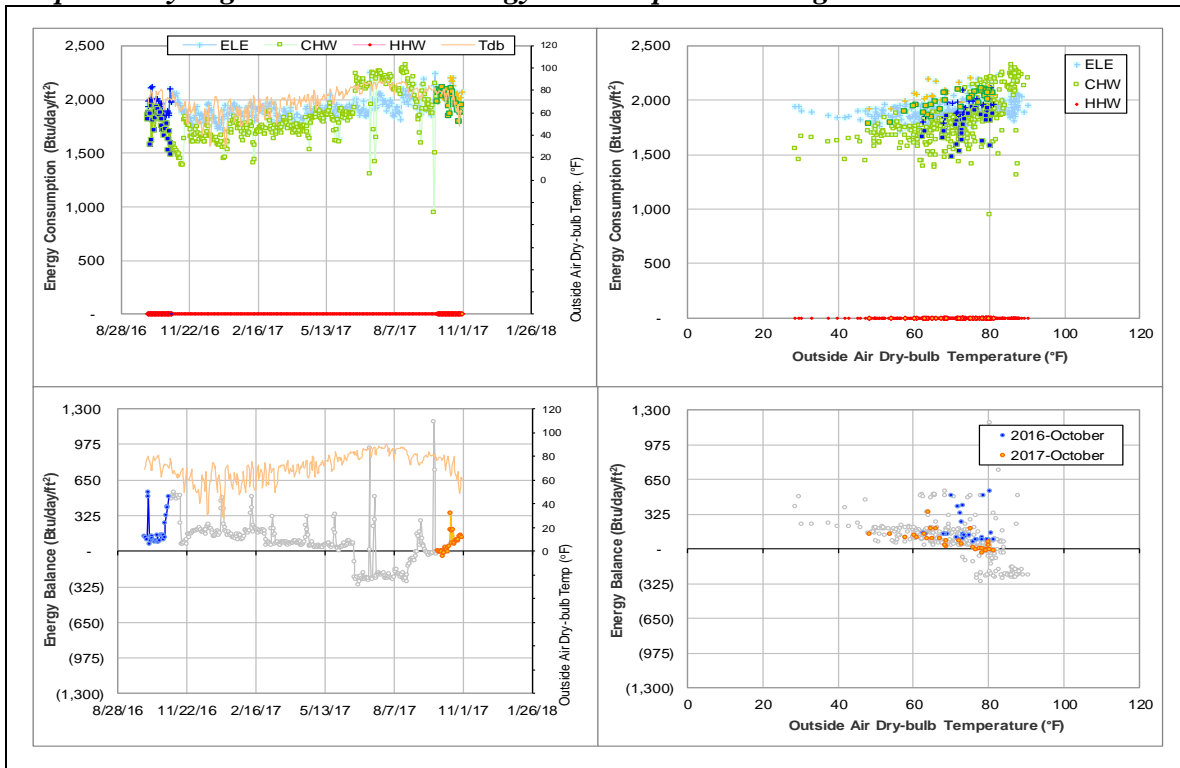
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
CHW	The consumption increased.	Since June 2017

### *Comments*

CHW flow rate increased from the range of 400 – 520 gpm to 480 – 560 gpm since 6/19/2017 resulting in a significant increase in CHW consumption. This building is reported to be under renovation.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Beutel Health Center (TAMU Bldg #520)

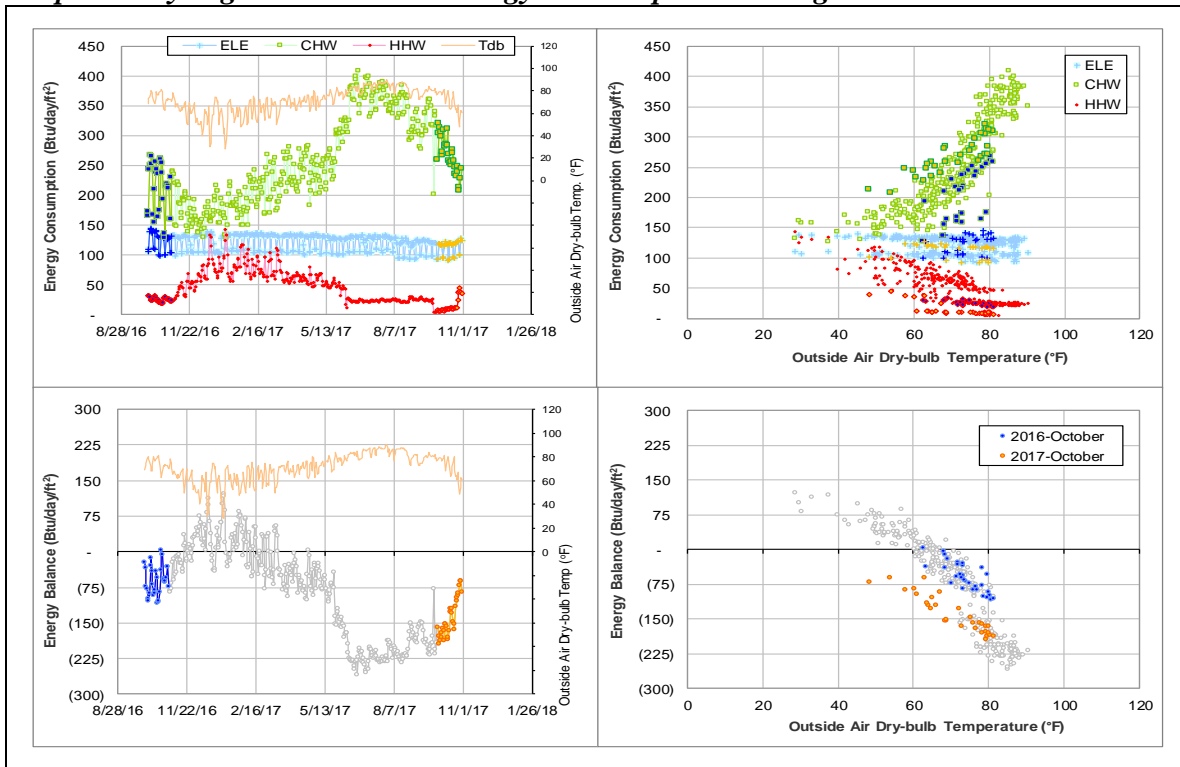
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
HHW	The consumption decreased.	Since June 2017

### *Comments*

The HHW flow rate and Delta-T decreased on 6/25/2017 but the consumption pattern seems stable. The consumption also returned to this decreased level after a problematic period on 9/25/2017 – 10/26/2017. See also II-2.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Blocker Building (TAMU Bldg #524)

### *Detected issues in the energy balance and/or the consumption data*

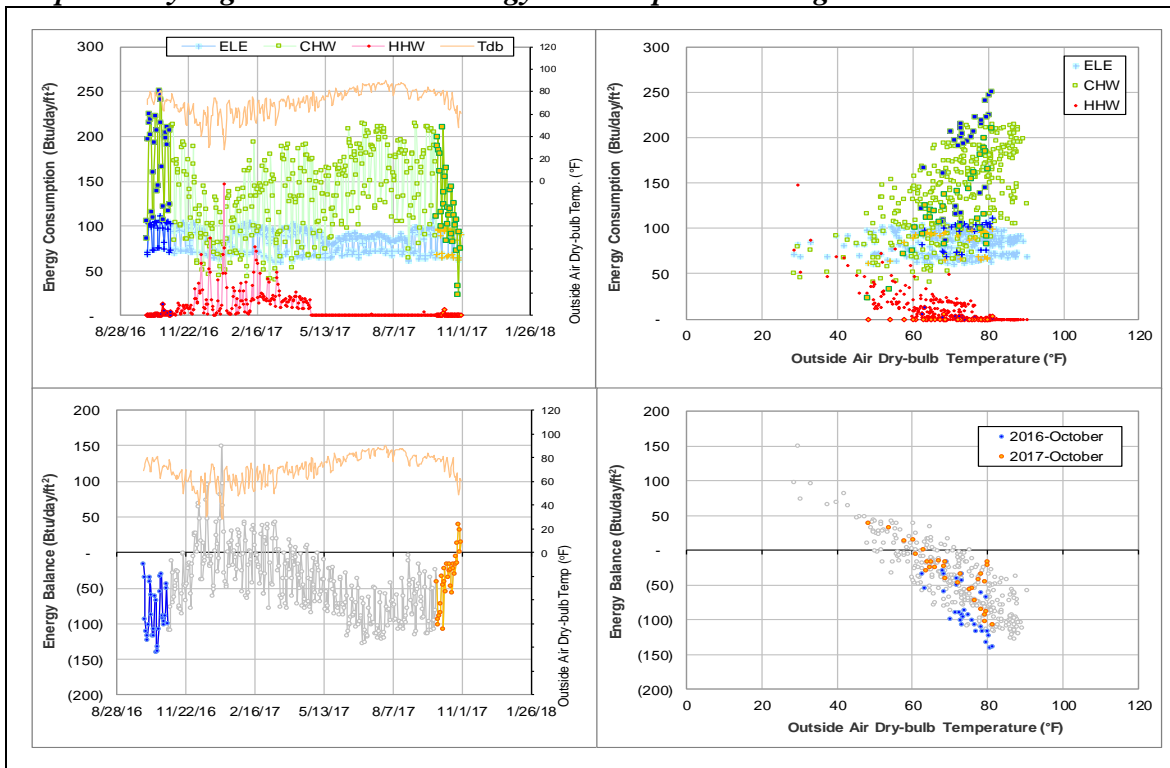
Data Type	Description of data behaviors	Period
CHW	The consumption decreased and is about 50 Btu/day-ft <sup>2</sup> (25%) lower than the level of the past year.	Since May 2017
HHW	The consumption level is low.	Past several years

### *Comments*

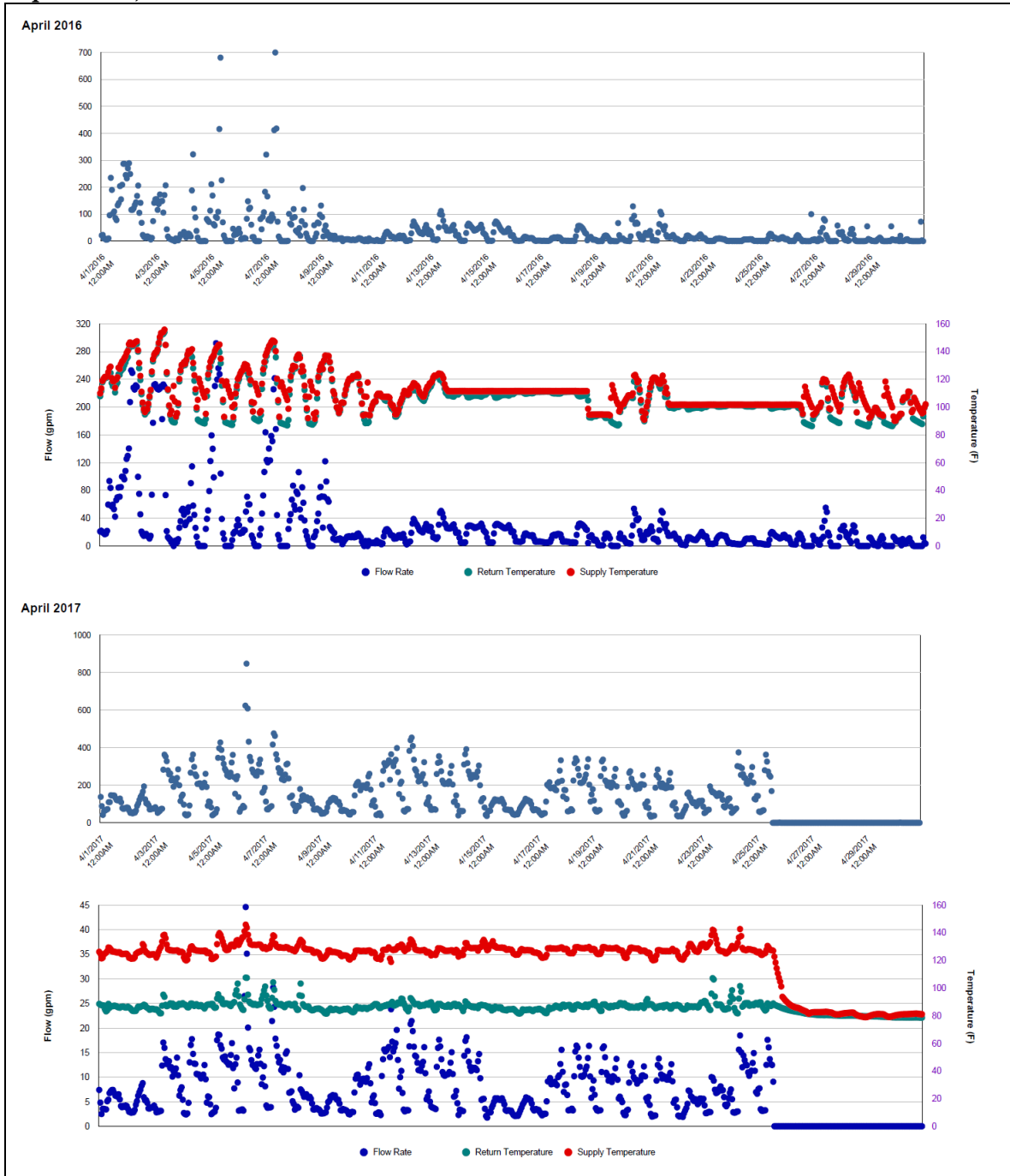
The cross-point of temperature of energy balance had been lower than 60°F for years. But the recent decrease of CHW pulled energy balance up and now it crosses between 60 and 70°F.

The delta-T and consumption level for HHW seemed low for the past couple of years and started to change in an unstable fashion in February 2017. The explanatory figures below show the change in Delta-T of April 2016 and April 2017. HHW seemed closed off since the end of April. This increase also contributed to the higher and more reasonable cross-point of energy balance. It continues to seem closed off during the non-heating season.

### *Explanatory Figure: 13 months energy balance plot with original data*



**Explanatory Figure: Time series plots of hourly HHW energy consumption, flow rate, and supply and return temperatures from the utilities office. (Top: April 2016; Bottom: April 2017)**



## Neeley Residence Hall (TAMU Bldg #652)

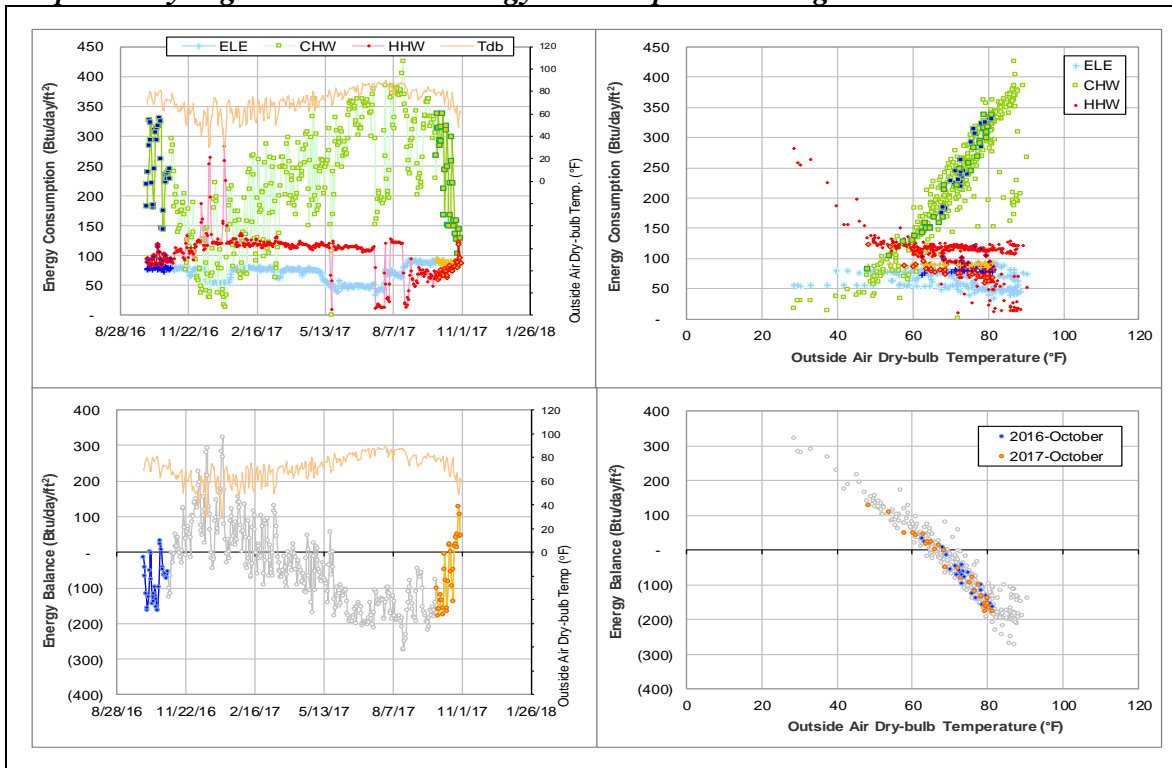
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
HHW	The consumption decreased.	Since August 2017

### *Comments*

HHW flow rate dropped from its normal rate of 22 – 27 gpm to 2 – 14 gpm since 8/20/2017. This behaviour showed in the last year too. There is no obvious disturbance observed in energy balance.

### *Explanatory Figure: 13 months energy balance plot with original data*





## McNew Laboratory (TAMU Bldg #740)

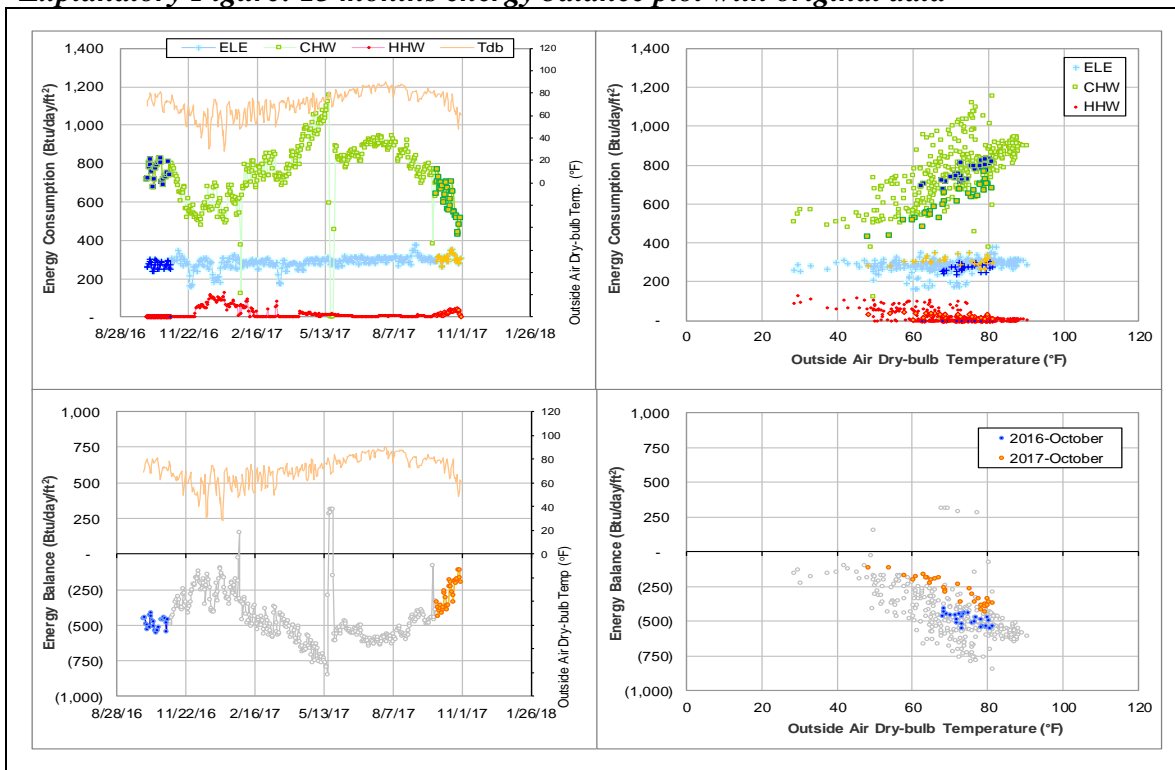
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance pattern level is low.	Past several years
HHW	The consumption level seems low.	Past several years

### *Comments*

The energy balance level has consistently been low and does not even reach a cross-point temperature. Since 2013, there has been a large decrease in HHW use. After that, HHW consumption decreased gradually year by year. Recently, the CHW has increased starting February 2017, causing the energy balance to reduce even more. More information is needed to help identify the reason causing the low energy balance for this building.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Texas Vet Med Diagnostic Lab (TAMU Bldg #1041)

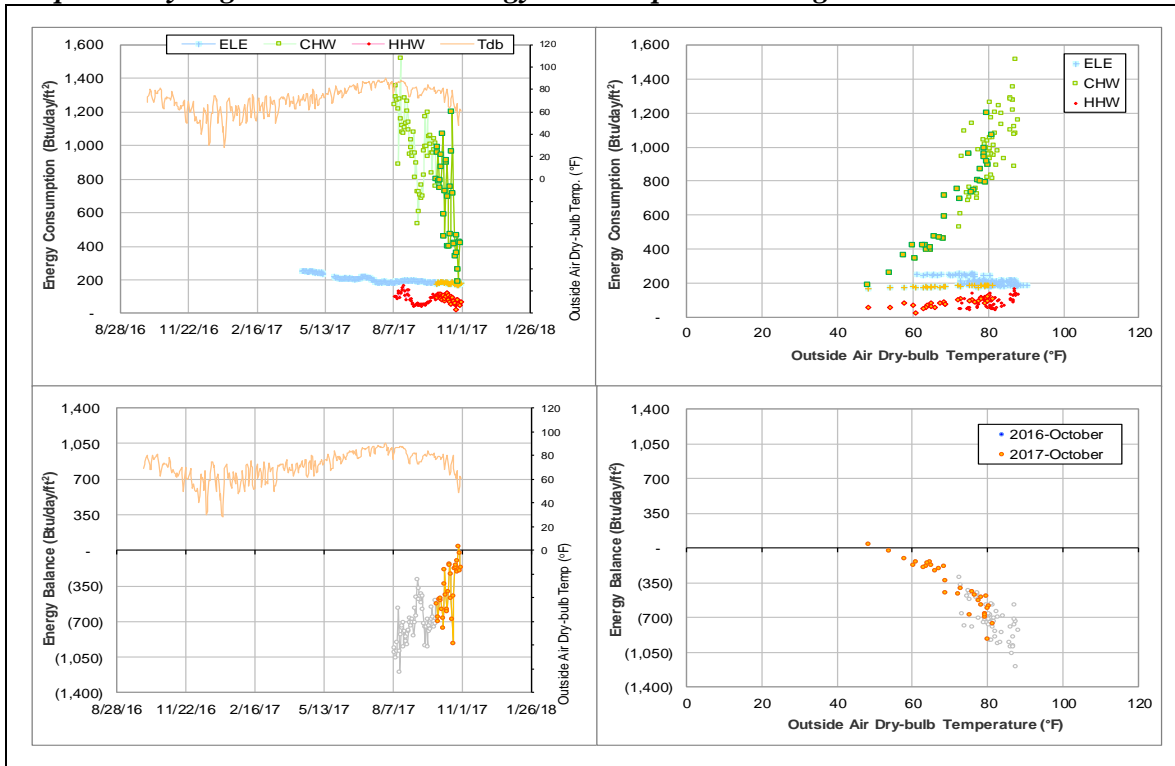
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance has a cross-point at 55°F.	Since the data became available in August 2017

### *Comments*

The energy balance of this building has a cross-point as low as 55°F. This may be caused by its low HHW consumption in low temperature range. However, the data of this building have only become available in August 2017 and its systems may still be subject to adjustments.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Physical Plant Administration & Shops (TAMU Bldg# 1156)

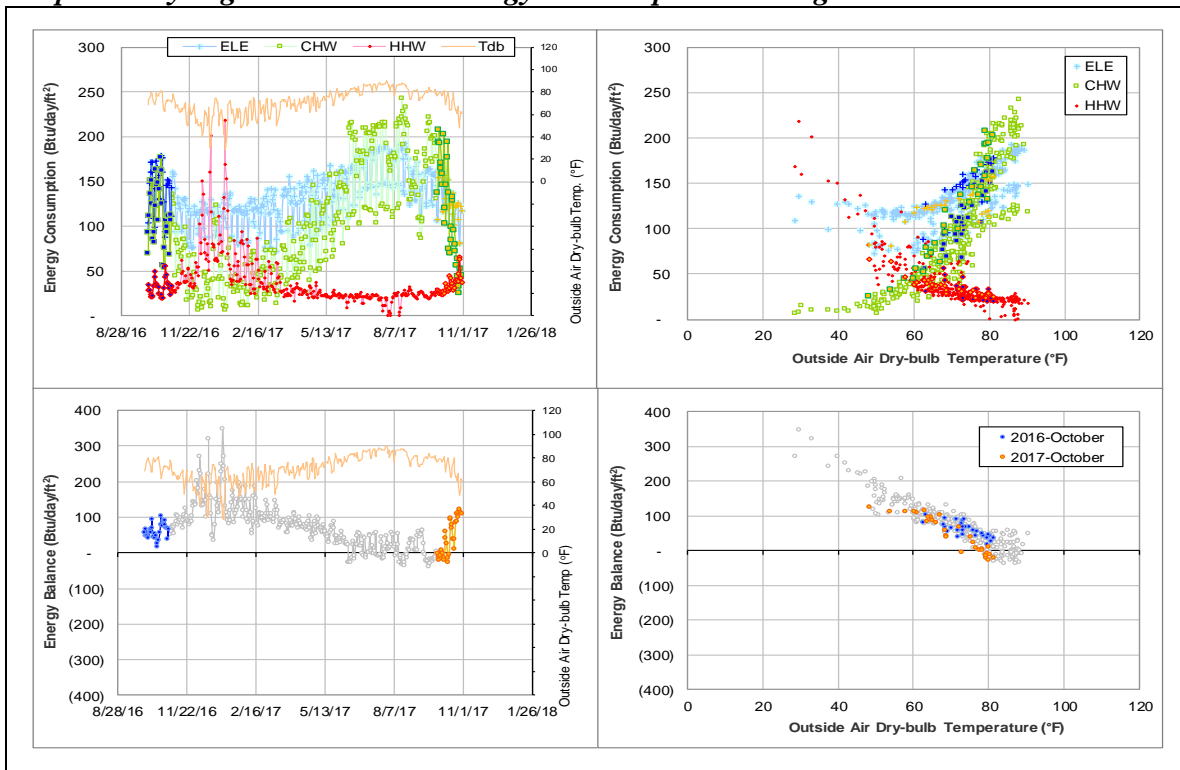
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is as high as 85°F.	Since 7/1/2014 when ELE became available
CHW	The consumption level seems low compared to the ELE and HHW use level.	Since the data became available on 7/1/2012.
	The weekend level decreased to farther from weekday level.	Since 2017.

### *Comments*

The electricity is not available until 7/1/2014. CHW consumption level seems low compared to the ELE and HHW use level, but the CHW consumption has a clean and stable pattern since the data became available on 7/1/2012. More information is needed to identify which type of utility causes the high cross-point temperature. It is possible that the GSF on file (101,704 ft<sup>2</sup>) includes substantial unoccupied or unconditioned areas. Since 2017, the weekday and weekend separation of CHW consumption patterns have a larger split.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Rosenthal Meat Science & Technology Center (TAMU Bldg #1505)

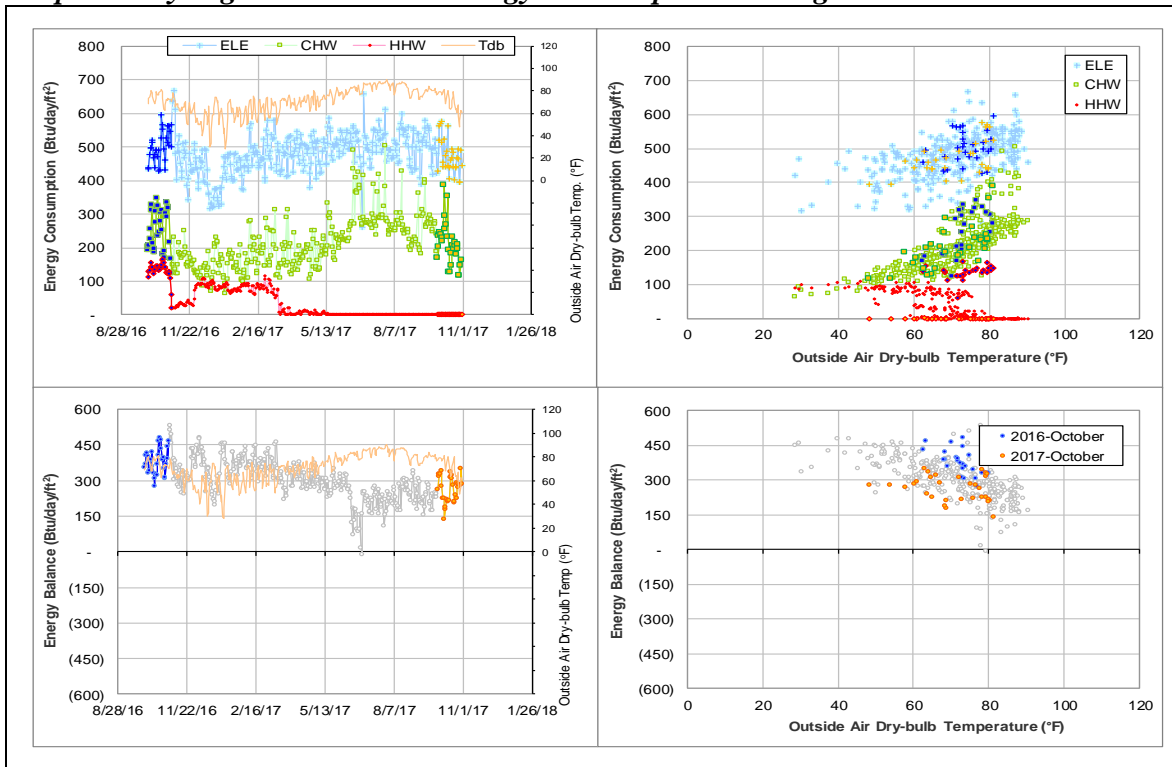
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
HHW	Very low or zero	Since 3/15/2017.

### *Comments*

HHW consumption of this building has been zero or near zero since 3/15/2017. Its hourly flow readings are near zero (less than 0.0060 gpm) and its supply and return temperature readings are close to room temperature. It is suspected to be a close-off but this did not occur in the previous year.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Medical Sciences Library (TAMU Bldg# 1509)

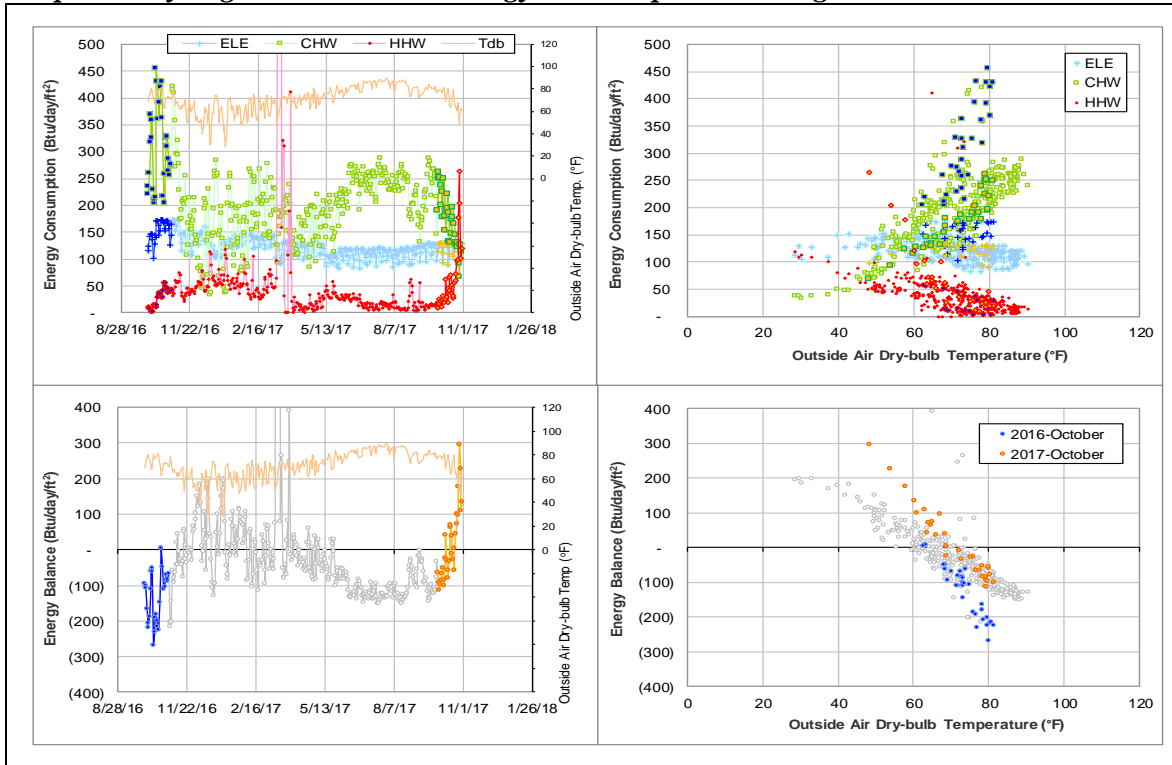
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE, CHW, and HHW	Consumption decreased significantly.	Since March 2017

### *Comments*

The consumption of all utilities of this building decreased since March 2017. The decrease of CHW is the most significant. This building is reported to be in ESCO III.

### *Explanatory Figure: 13 months energy balance plot with original data*



## AgriLife Services Building (TAMU Bldg# 1536)

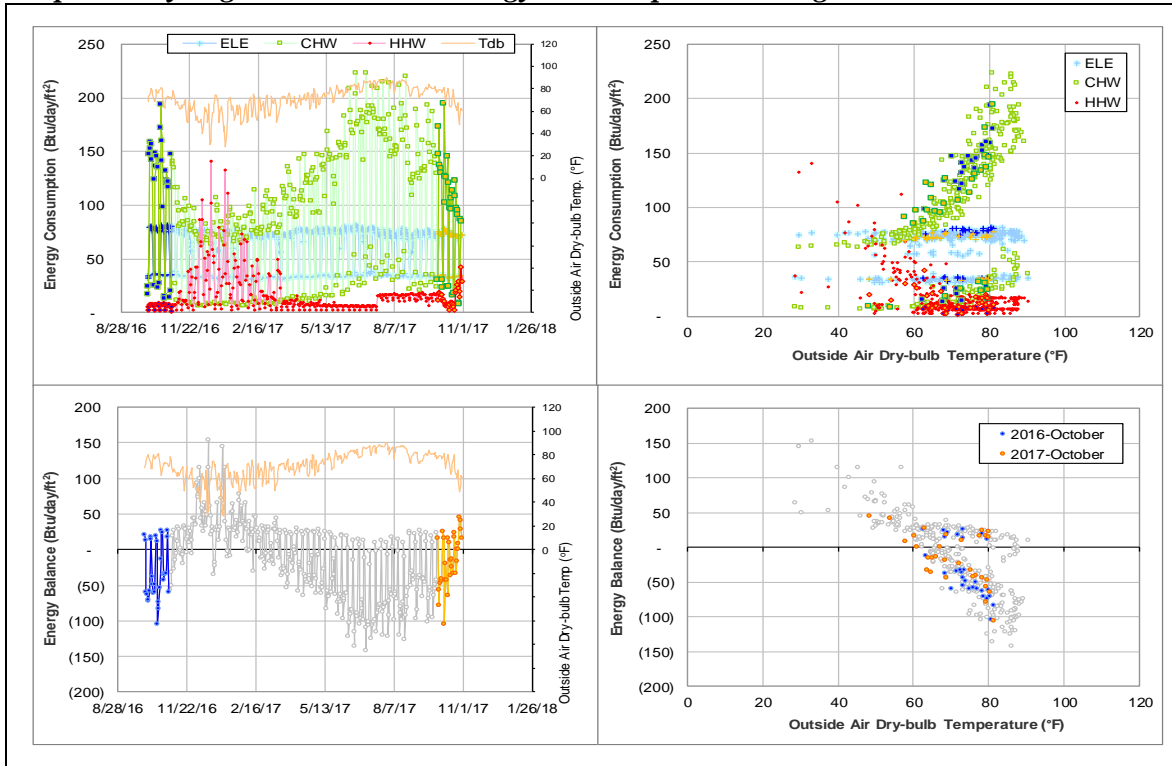
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
HHW	The consumption increased and became unstable.	Since July 2017

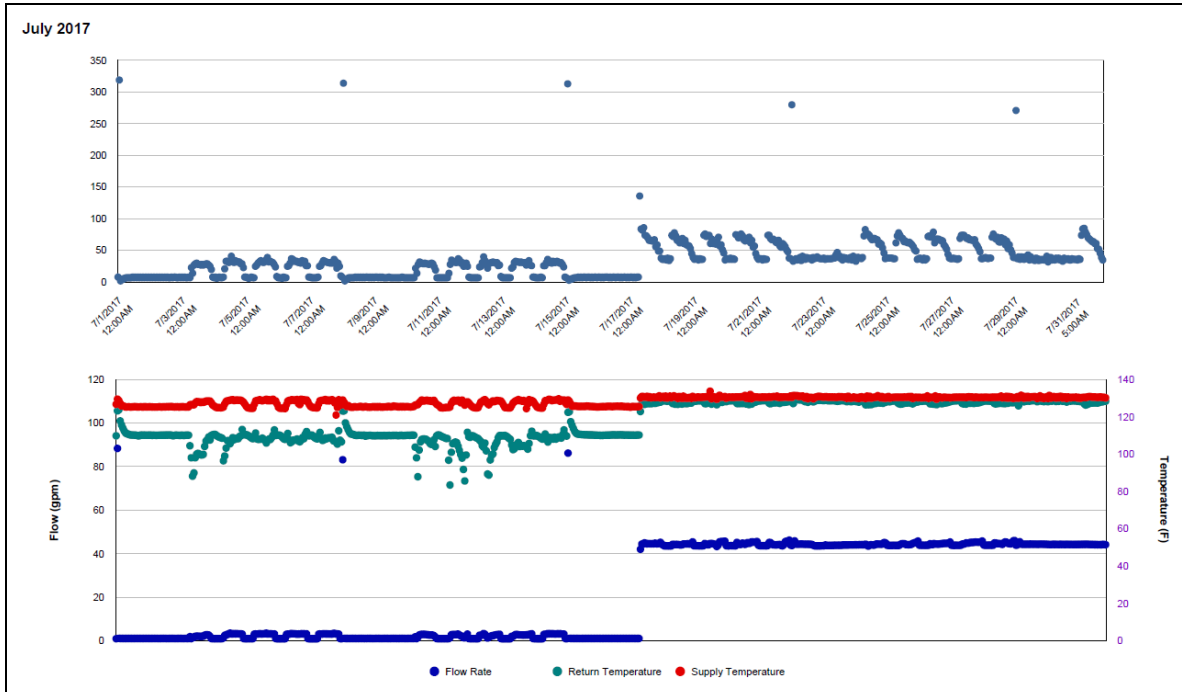
### *Comments*

On 7/17/2017, The flow of HHW suddenly increased from a near zero level to slightly higher than 40 gpm. Delta-T significantly decreased at the same time. The combined effect is a sudden increase of HHW consumption. HHW meter readings show multiple shifts between these two modes since then.

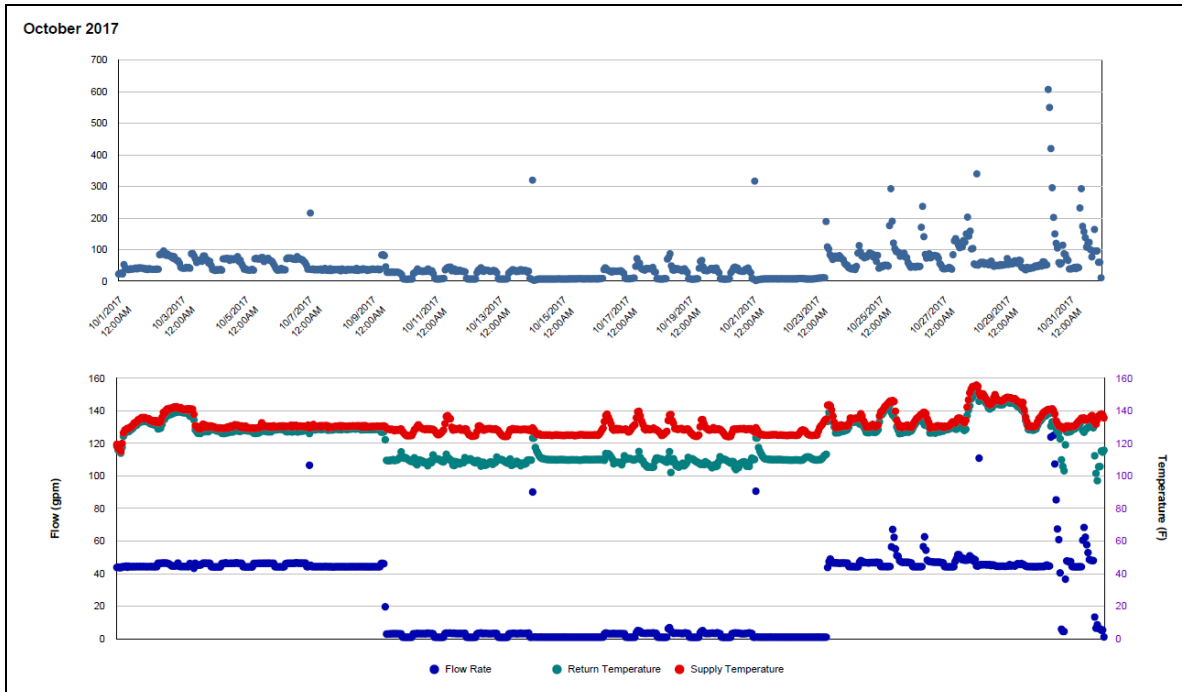
### *Explanatory Figure: 13 months energy balance plot with original data*



*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during July 2017)*



*Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during October 2017)*



## Cox-McFerrin Center for Aggie Basketball (TAMU Bldg# 1558)

### *Detected issues in the energy balance and/or the consumption data*

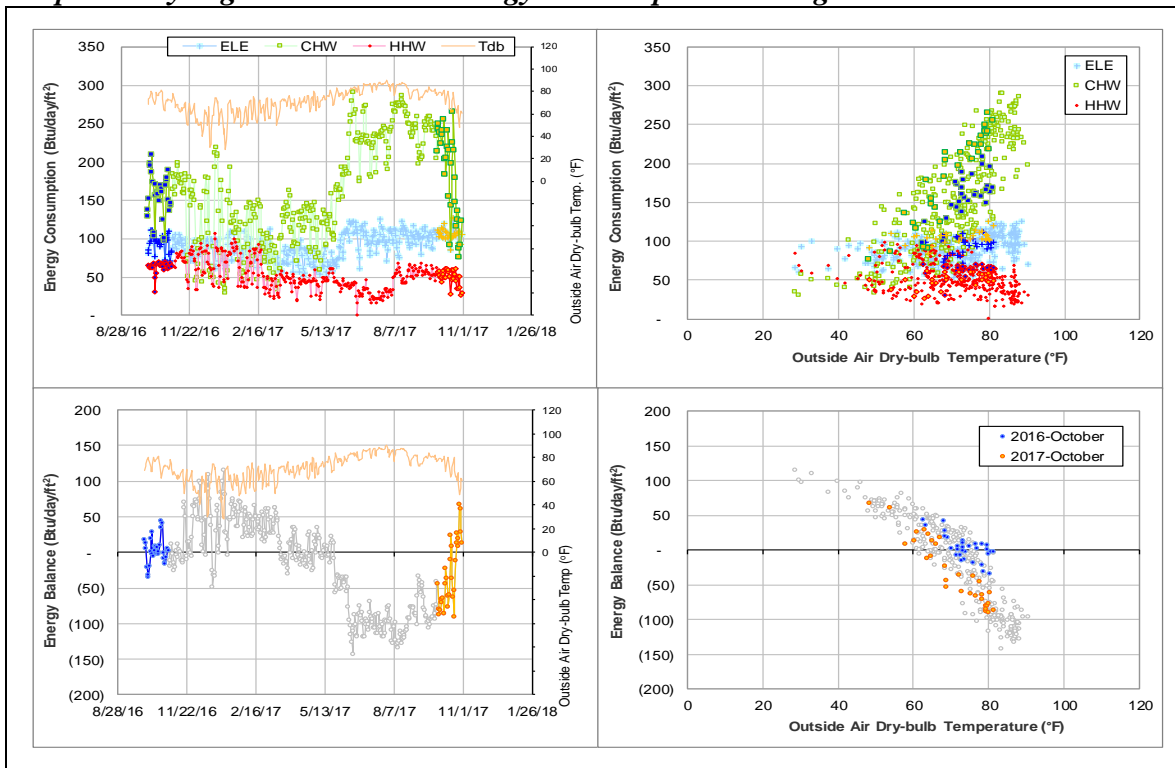
Data Type	Description of data behaviors	Period
CHW	Consumption increased.	Since May 2017
HHW	Consumption pattern is not weather dependent.	Since November 2016

### *Comments*

The CHW consumption increased by about 50 Btu/day/ft<sup>2</sup>. There is no meter fault observed associated with this change.

The HHW pattern remains scattered and does not appear to be weather dependent.

### *Explanatory Figure: 13 months energy balance plot with original data*





## International Ocean Discovery Building (TAMU Bldg# 1601)

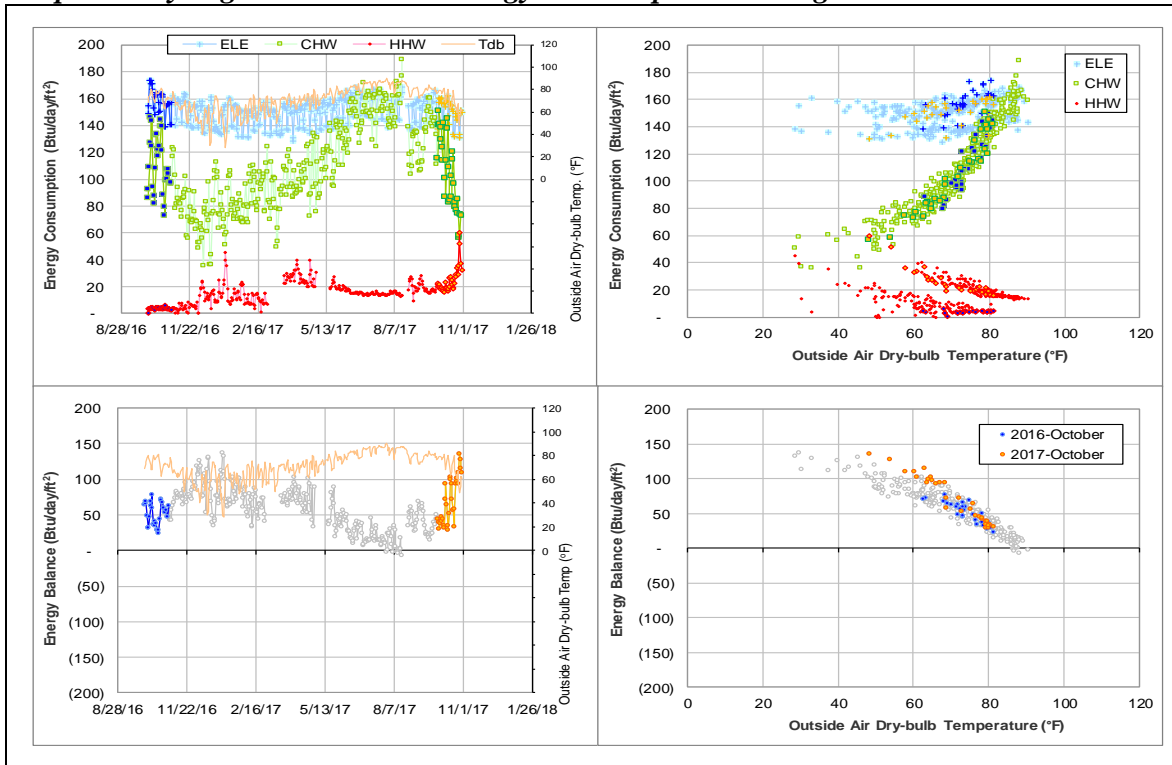
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point is high, around 85°F.	Since data became available in Feb 2015
HHW	A new MID 009829 is discovered.	3/21/2017

### *Comments*

The cross-point temperature is high for this building, around 85°F. The daily CHW consumption for last year is 36 – 200 Btu/day/ft<sup>2</sup>. The CHW consumption level is low compared to ELE and HHW levels and its ELE has strong dependence on temperature. This building might have its own chillers. A new HHW MID 009829 is discovered and has two or three times the consumption of the older HHW MID 008145, resulting a considerable increase in measured HHW consumption.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Offshore Technology Research Center (TAMU Bldg# 1604)

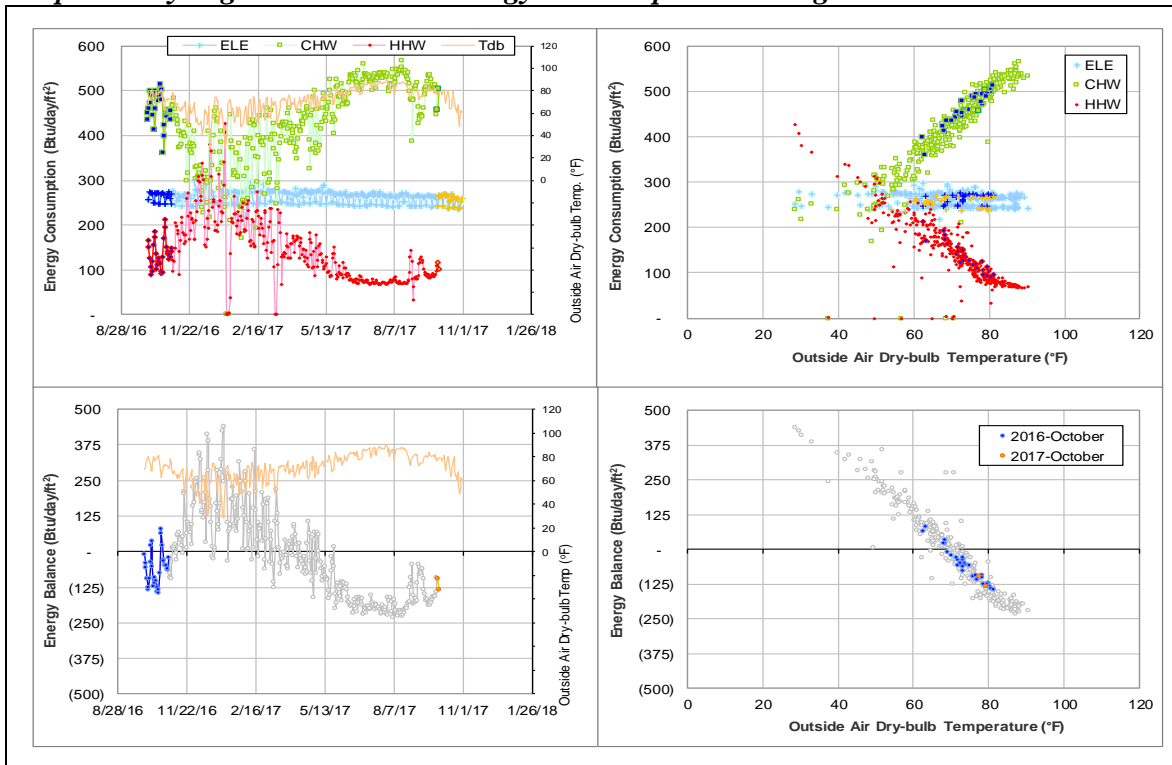
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE MID 006660	Consumption is zero for most of the time.	2/1/2015 – Ongoing

### *Comments*

The electric consumption for MID 006660 has been zero for most of the time since it became available in 2/1/2015. The energy balance of this building has a reasonable pattern. This meter is suspected to measure consumption for a specific piece of equipment that only runs occasionally.

### *Explanatory Figure: 13 months energy balance plot with original data*



## Texas A&M Institute for Preclinical Studies A (TAMU Bldg# 1904)

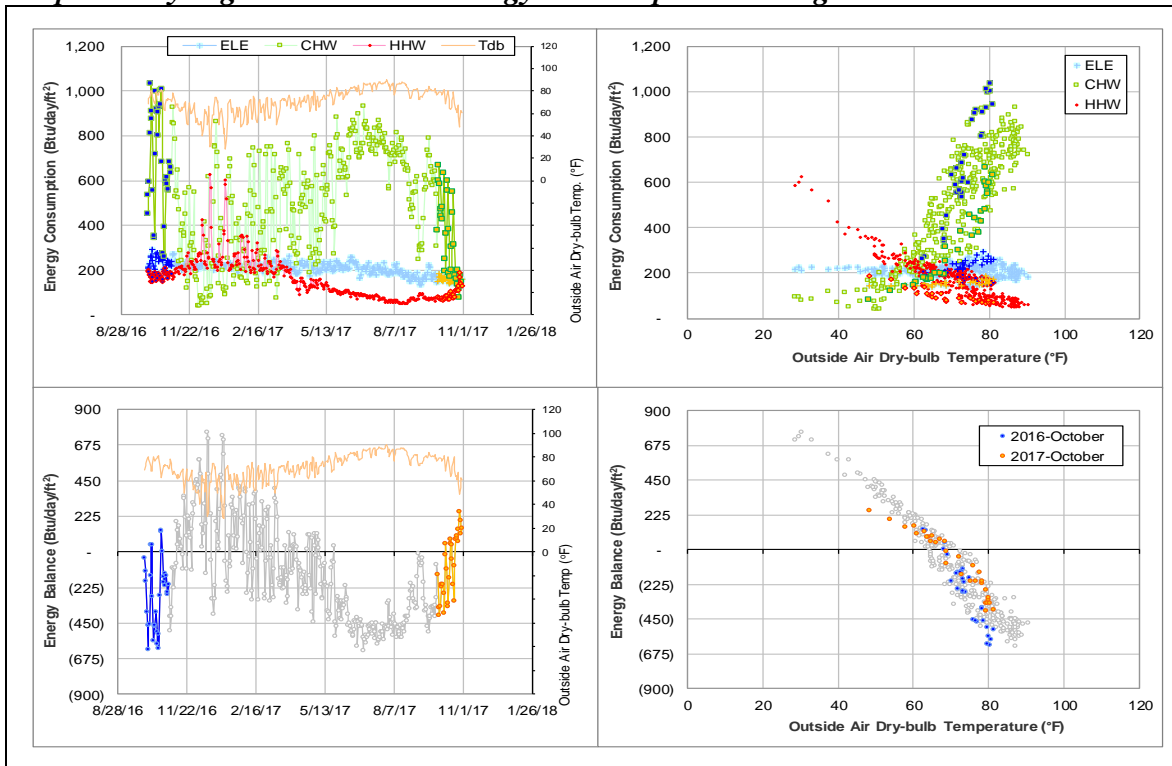
### *Detected issues in the energy balance and/or the consumption data*

Data Type	Description of data behaviors	Period
ELE, CHW and HHW	Consumption is decreasing gradually.	Since April 2017

### *Comments*

All ELE, CHW, and HHW consumption of this building has decreased since April 2017. Respectively, the three utilities are now about 100 Btu/day/ft<sup>2</sup> (35%), 400 Btu/day/ft<sup>2</sup> (35%), and 100 Btu/day/ft<sup>2</sup> (60%) lower than the same month in the previous year. However, the energy balance maintained the same pattern. Changes may have been made to this building.

### *Explanatory Figure: 13 months energy balance plot with original data*



### **III. Time Series Plots for October 2017 Consumption**

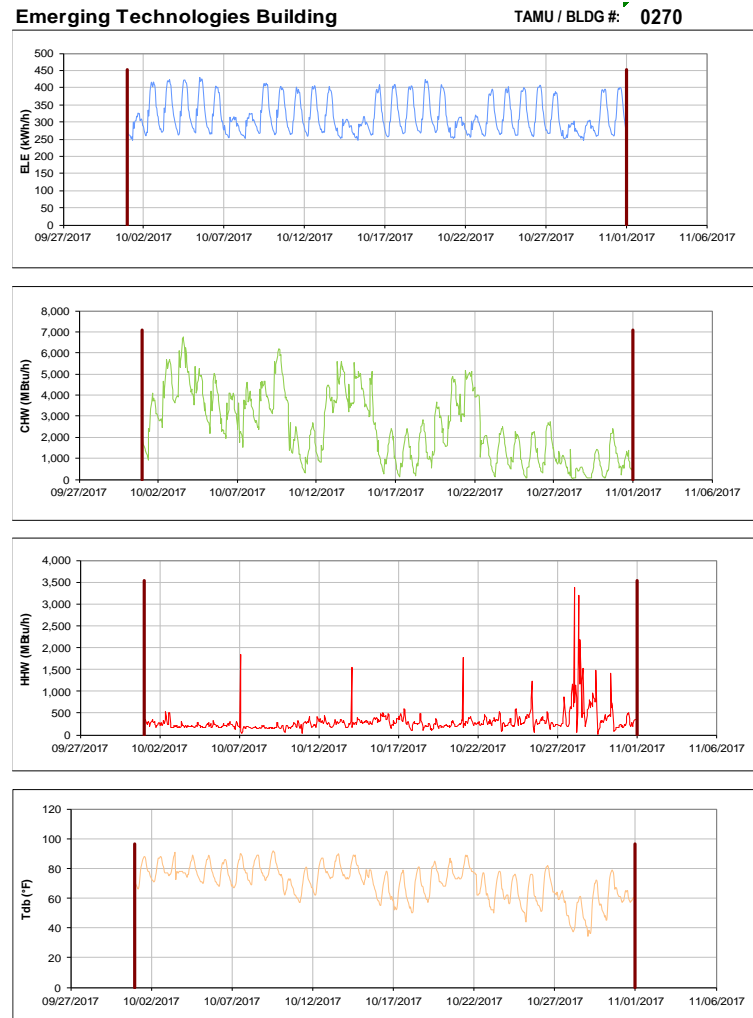


Figure III-1 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Emerging Technologies Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

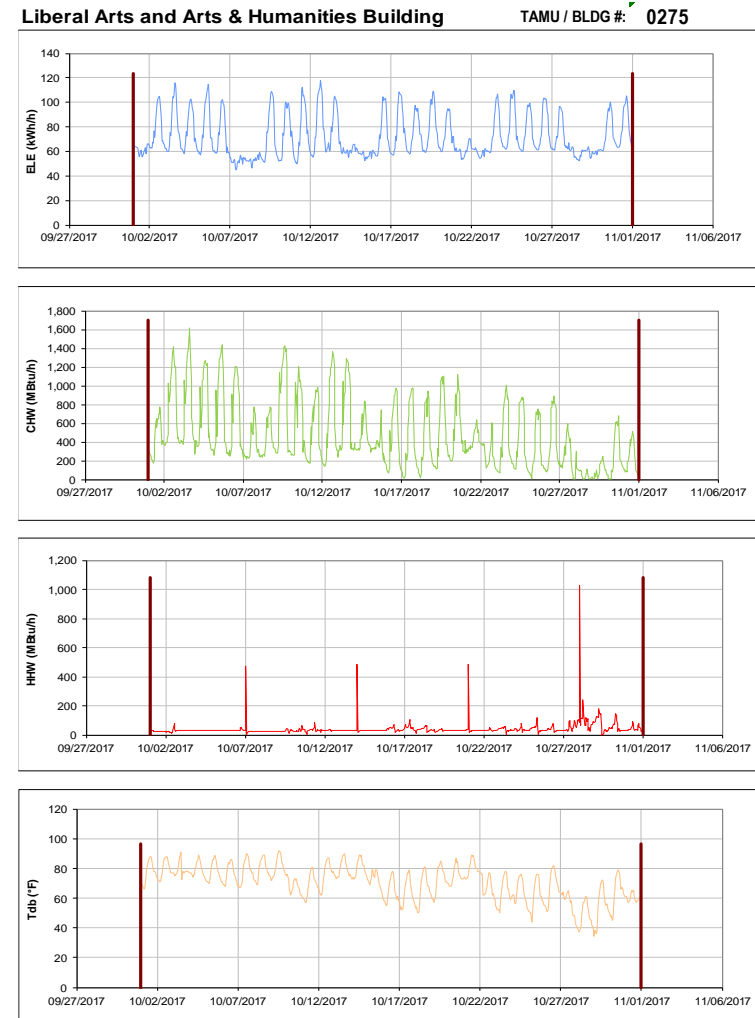


Figure III-2 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Liberal Arts and Arts & Humanities Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Wells Residence Hall**

TAMU / BLDG #: 0290

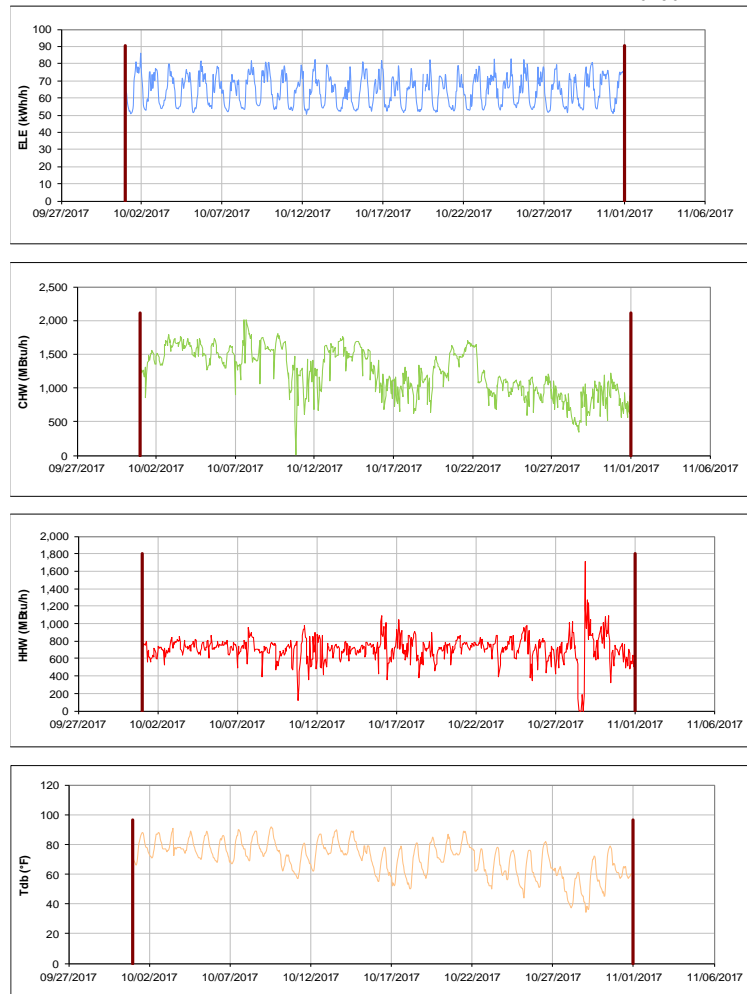


Figure III-3 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wells Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Rudder Residence Hall**

TAMU / BLDG #: 0291



Figure III-4 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Eppright Residence Hall**

TAMU / BLDG #: 0292

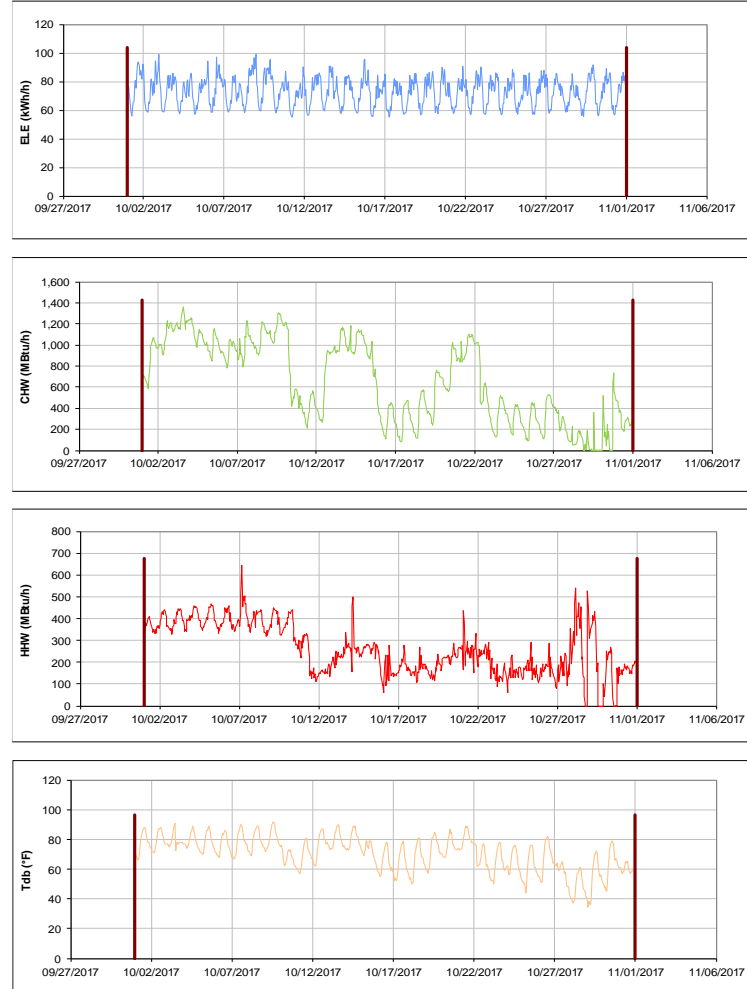


Figure III-5 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Eppright Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Appelt Residence Hall**

TAMU / BLDG #: 0293



Figure III-6 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Appelt Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-7 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lechner Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

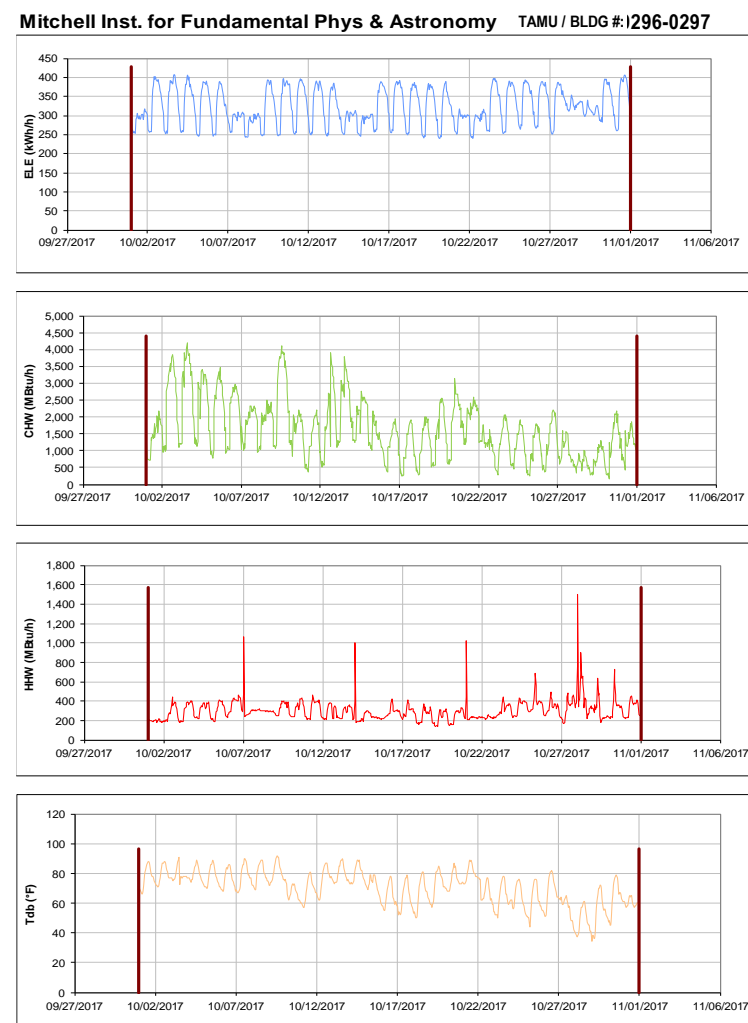


Figure III-8 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mitchell Inst. for Fundamental Phys & Astronomy during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



**CE TTI Office & Lab Building**

TAMU / BLDG #: 1325-0385

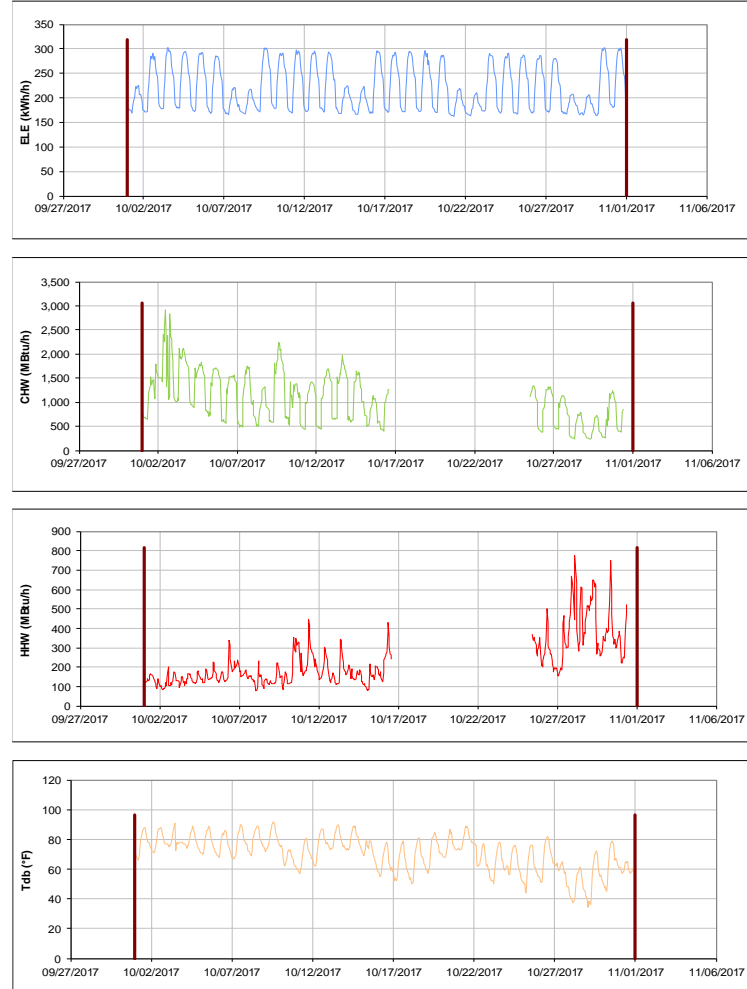


Figure III-9 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for CE TTI Office & Lab Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Bright Aerospace Building**

TAMU / BLDG #: 0353



Figure III-10 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Aerospace Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Davis Football Player Development Center** TAMU / BLDG #: 0358



Figure III-11 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis Football Player Development Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Architecture Building B** TAMU / BLDG #: 0359

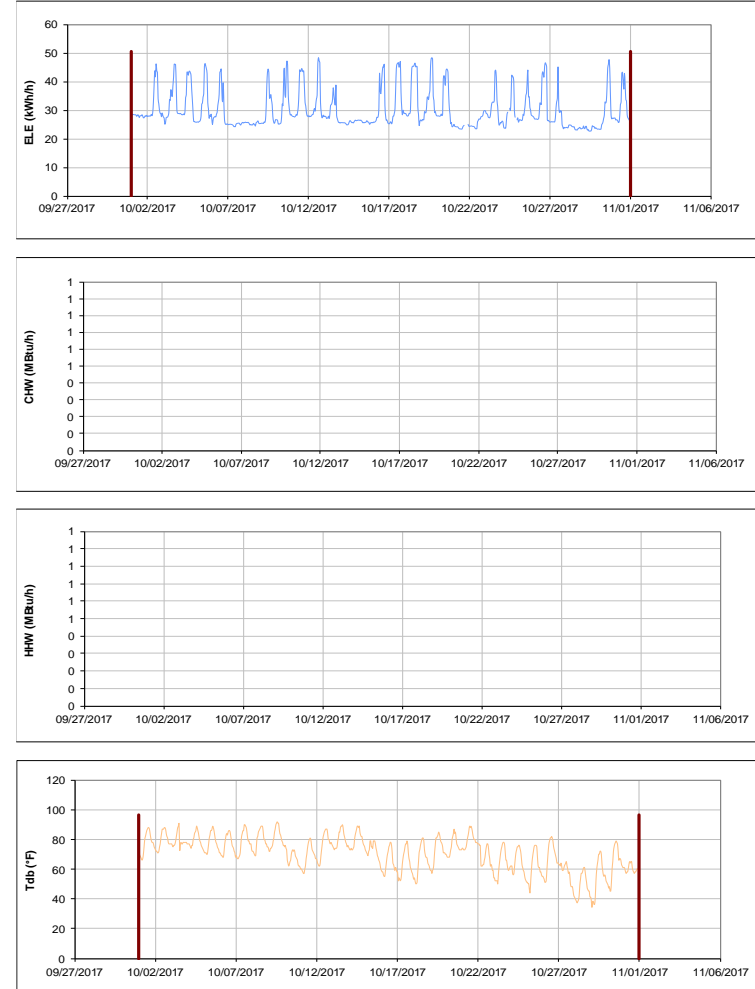


Figure III-12 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Architecture Building B&C

TAMU / BLDG #: 1359-0432

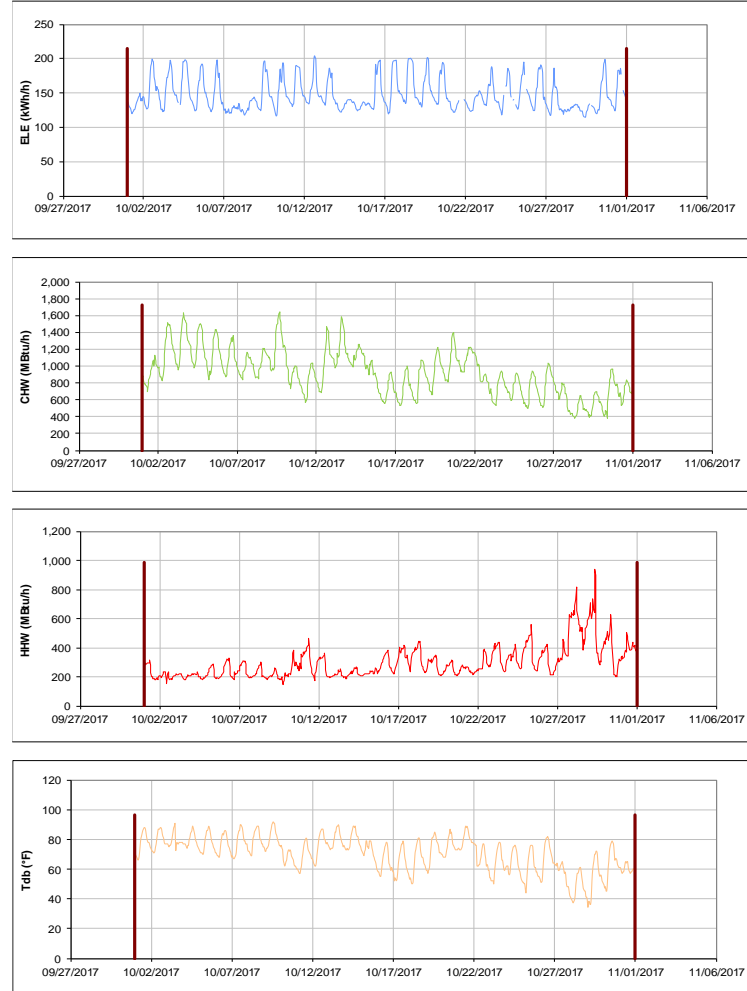


Figure III-13 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B&C during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Bright Football Complex

TAMU / BLDG #: 0361



Figure III-14 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Football Complex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

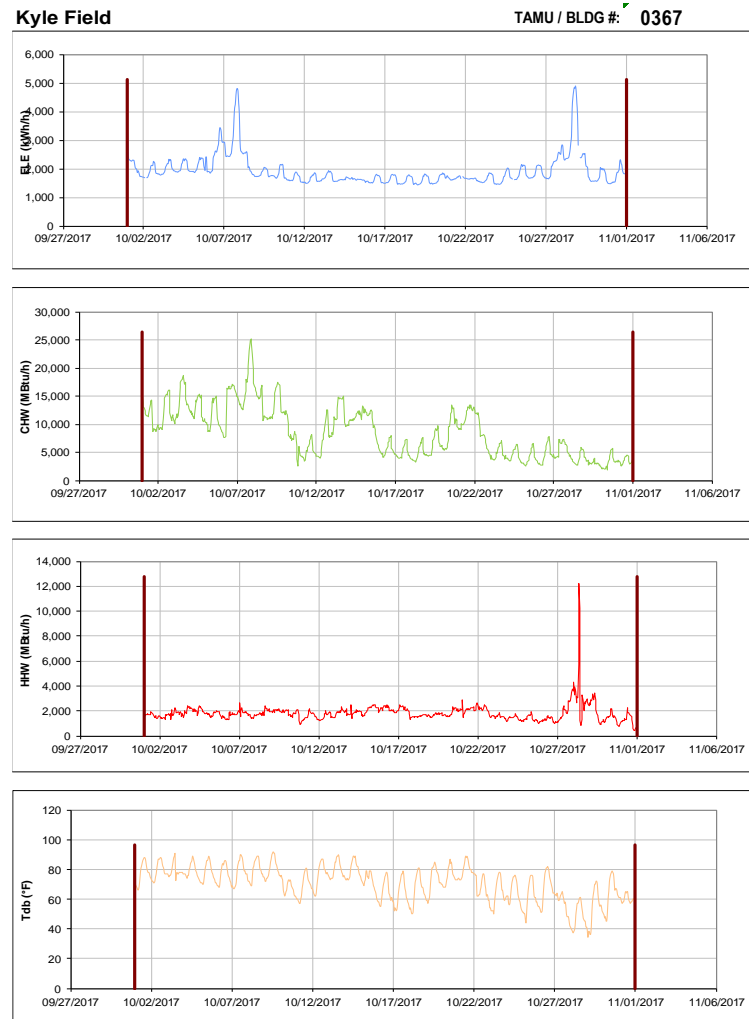


Figure III-15 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kyle Field during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

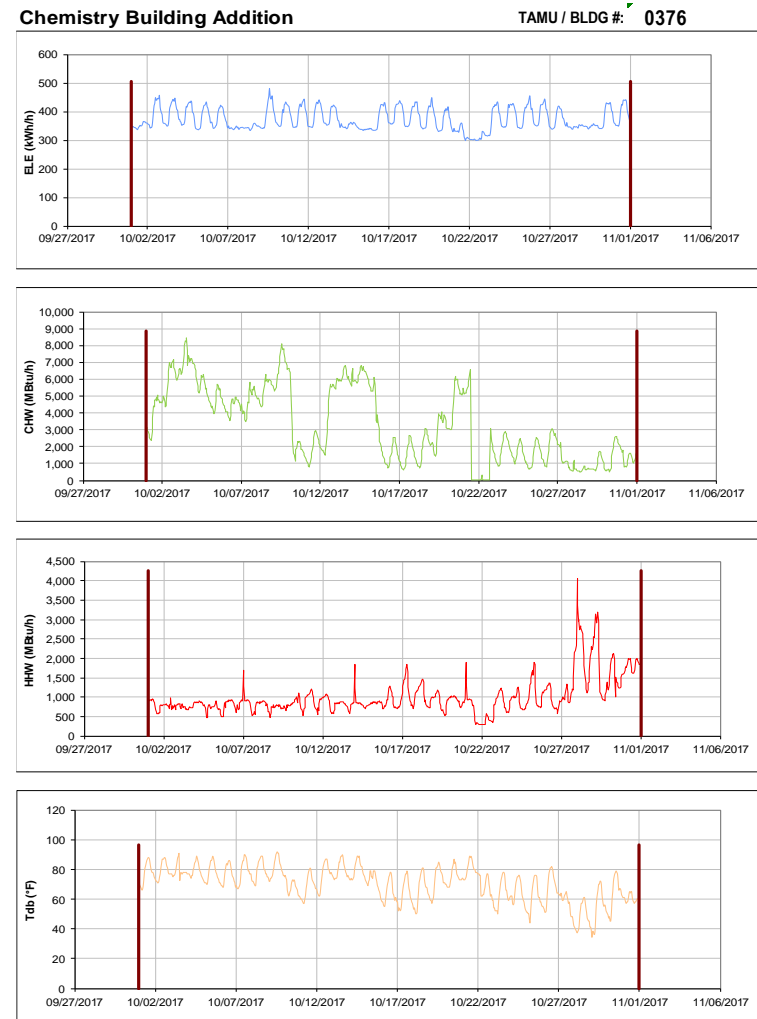


Figure III-16 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building Addition during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

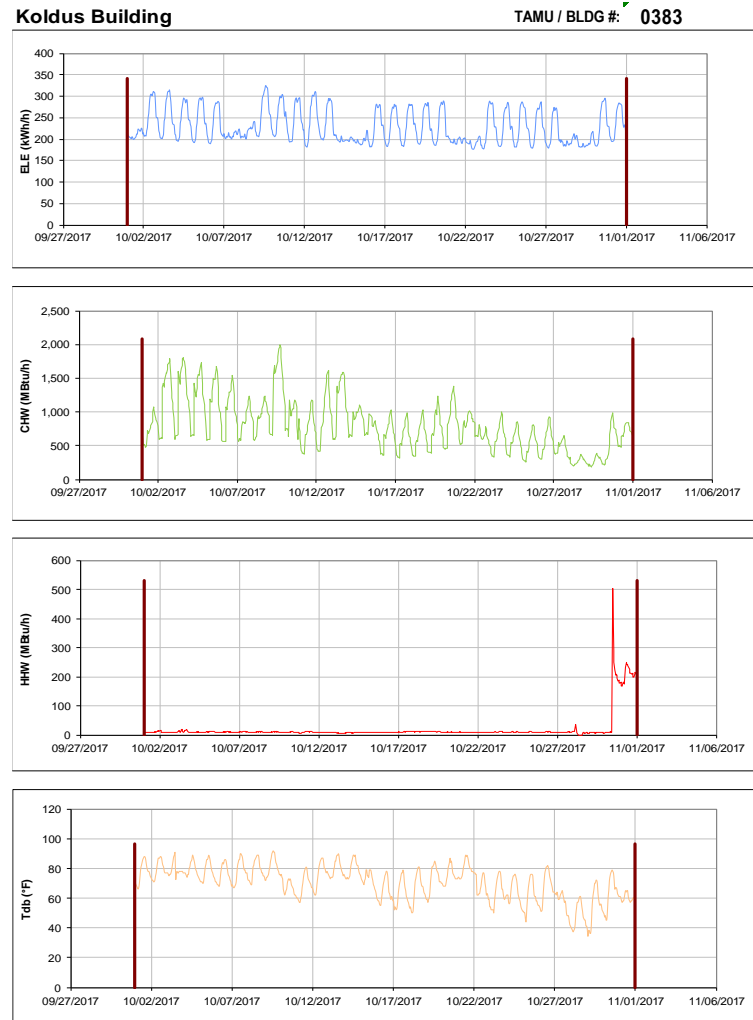


Figure III-17 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Koldus Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

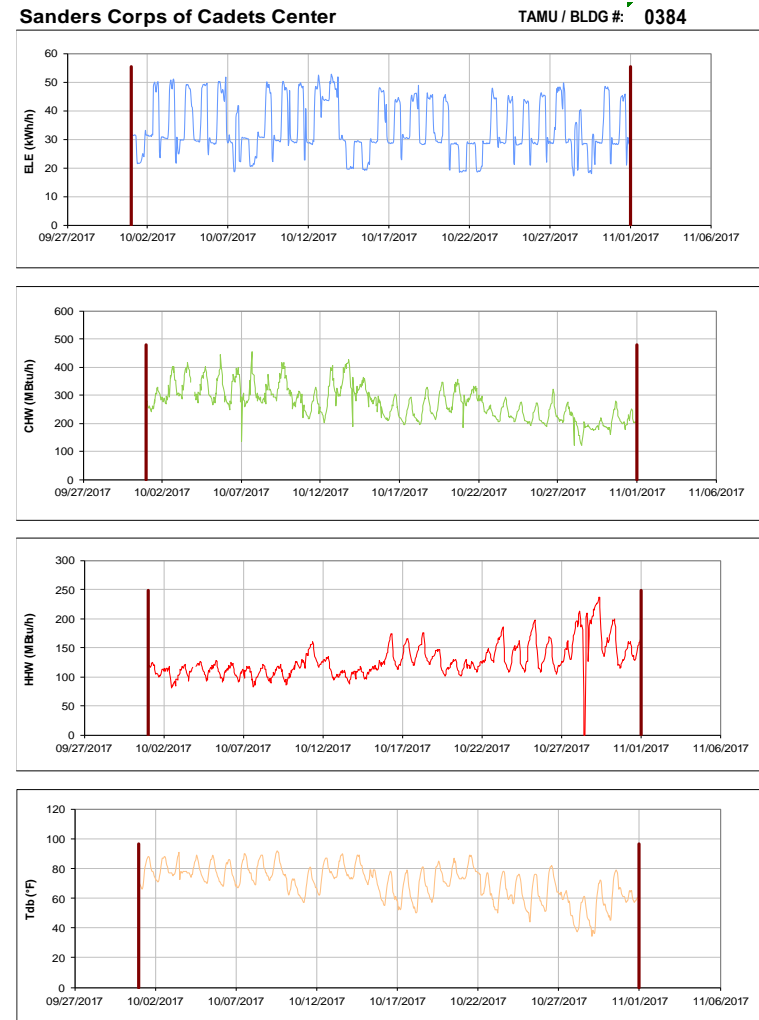


Figure III-18 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sanders Corps of Cadets Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Jack E. Brown Chemical Engineering Building** TAMU / BLDG #: 0386

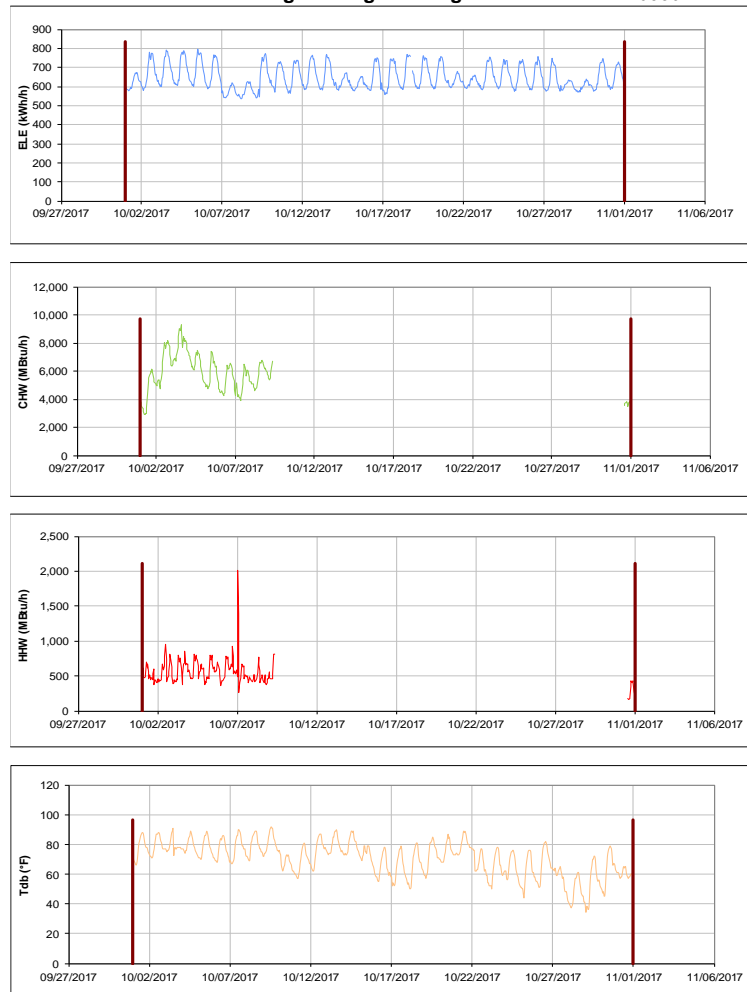


Figure III-19 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Jack E. Brown Chemical Engineering Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Richardson Petroleum Engineering Building** TAMU / BLDG #: 0387

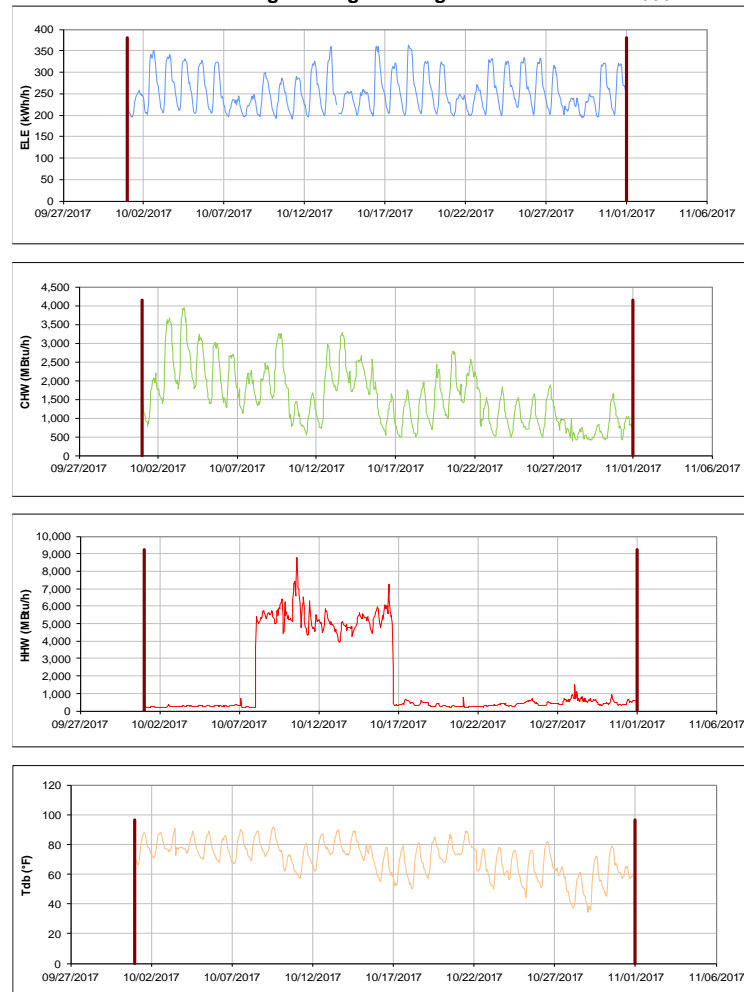


Figure III-20 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Richardson Petroleum Engineering Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

James J. Cain'51 and Mechanical Engineering Office BLDG # 0391-0392



Figure III-21 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for James J. Cain'51 and Mechanical Engineering Office Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Underwood Residence Hall

TAMU / BLDG #: 0394



Figure III-22 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Underwood Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

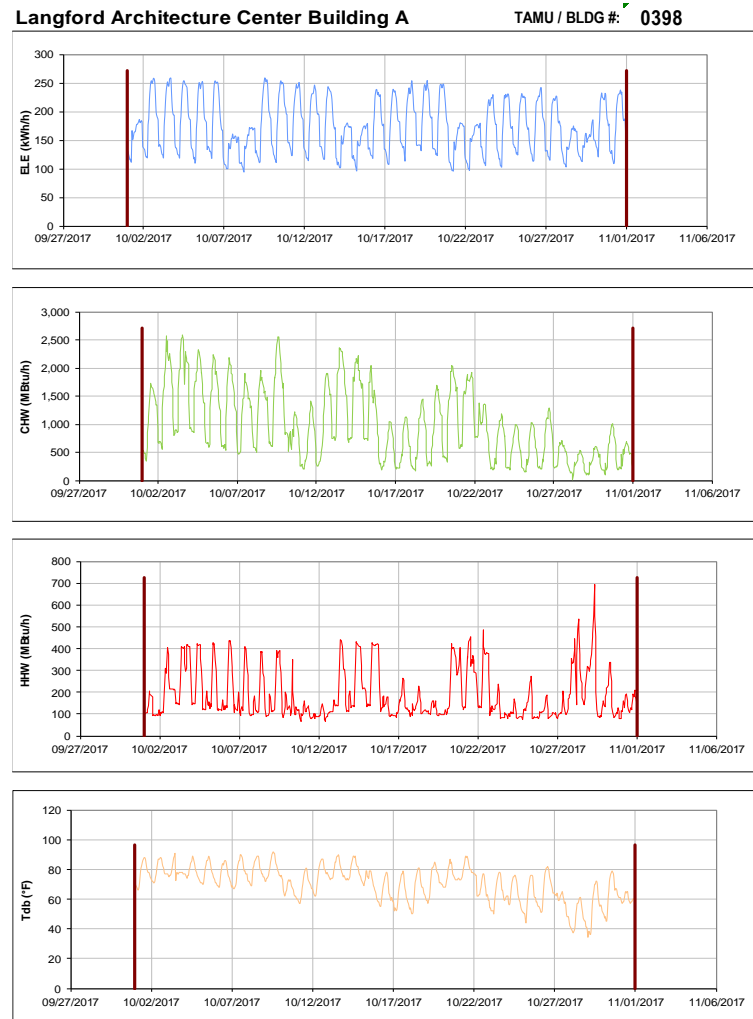


Figure III-23 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Langford Architecture Center Building A during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

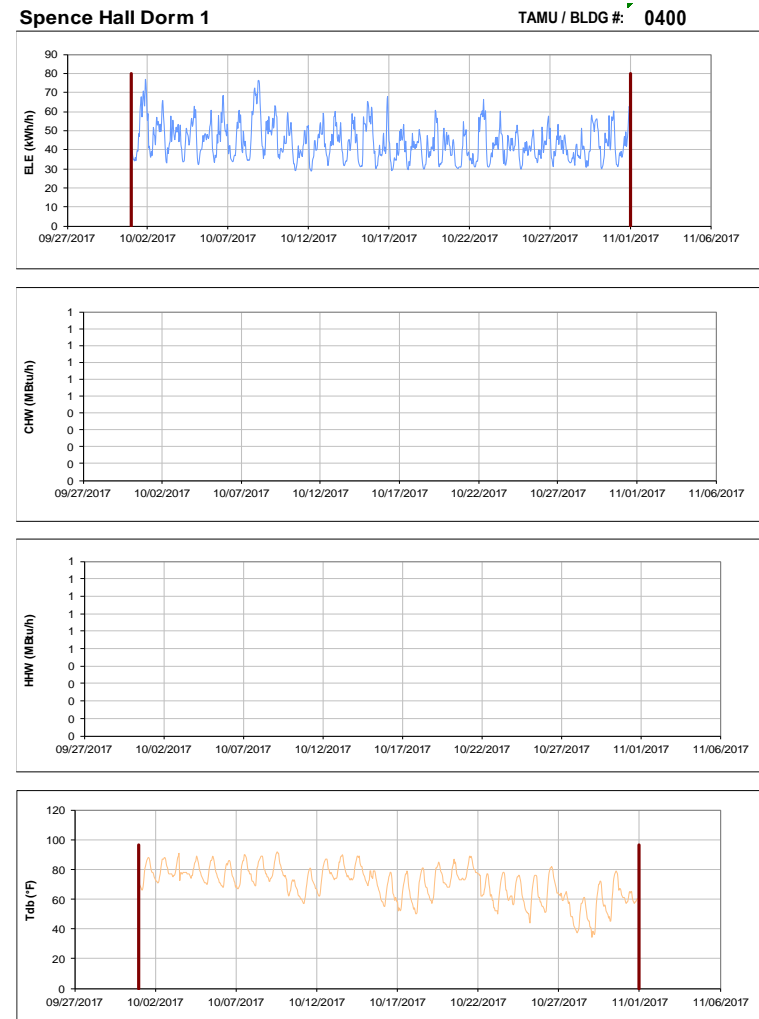


Figure III-24 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall Dorm 1 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Spence Hall, Briggs Hall, and Ash II LLC

TAMU / BLDG #: 0-0402-1405

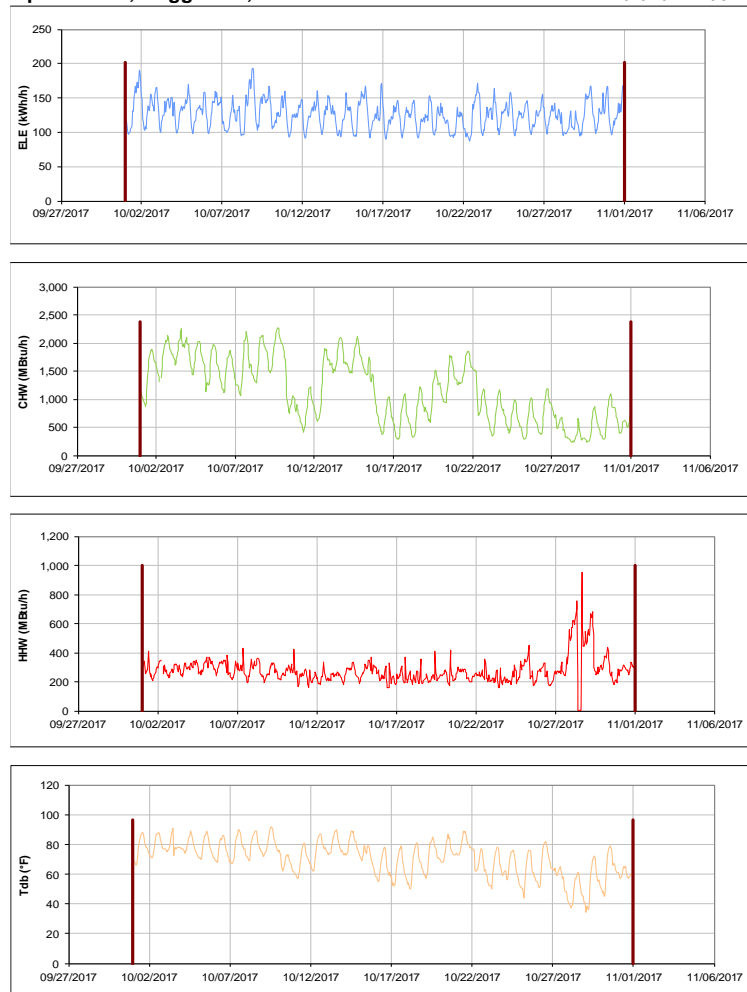


Figure III-25 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall, Briggs Hall, and Ash II LLC during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Kiest Hall Dorm 2

TAMU / BLDG #: 0401

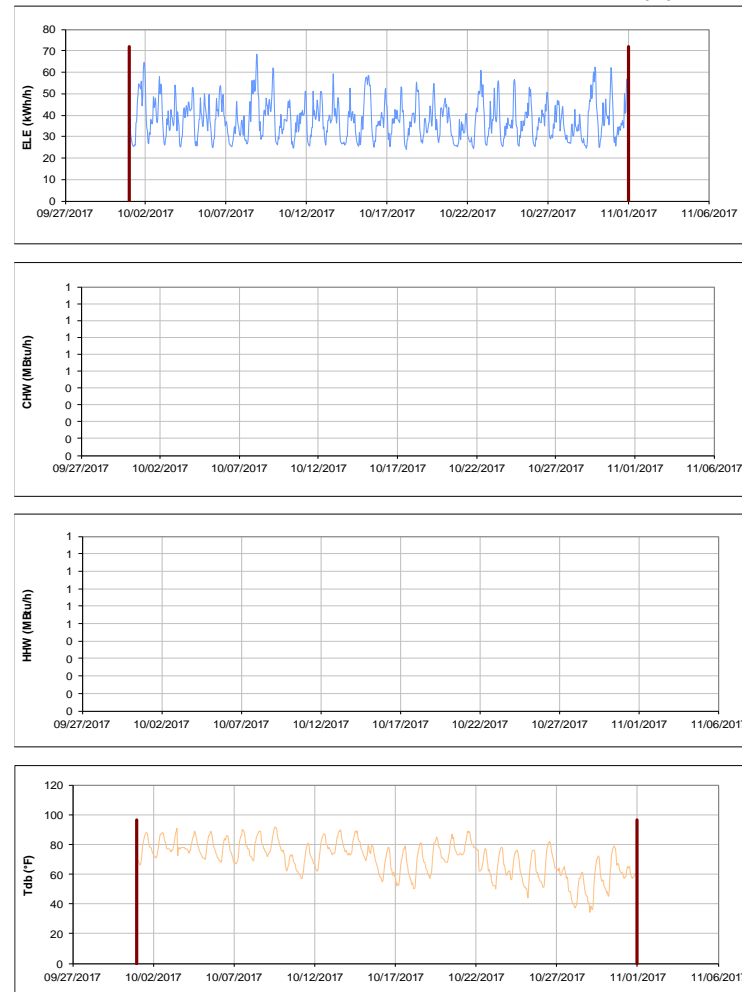


Figure III-26 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall Dorm 2 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Kiest Hall, Fountain Hall, and Plank LLC** TAMU / BLDG #: 1-0403-1404

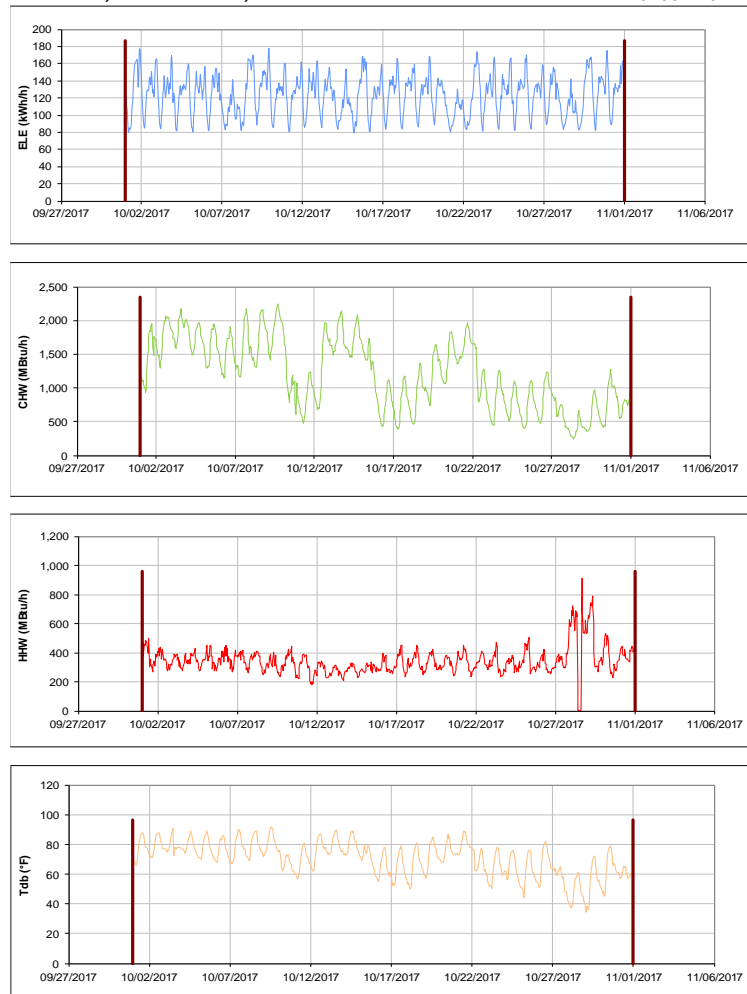


Figure III-27 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall, Fountain Hall, and Plank LLC during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Briggs Hall Dorm 3** TAMU / BLDG #: 0402

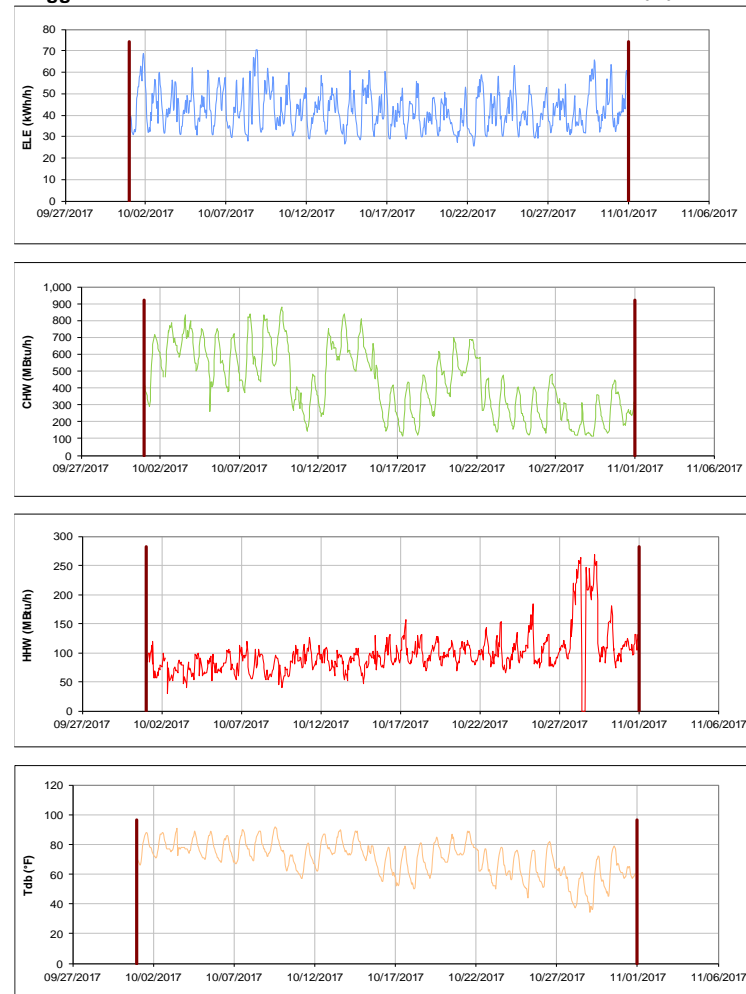


Figure III-28 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Briggs Hall Dorm 3 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Fountain Hall Dorm 4

TAMU / BLDG #: 0403

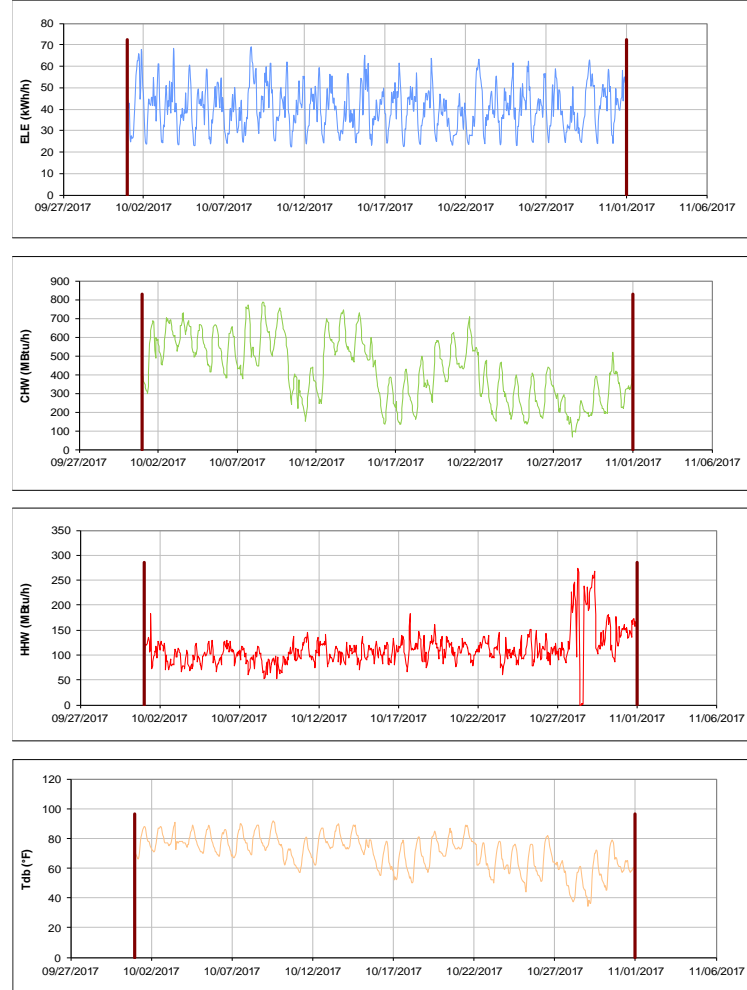


Figure III-29 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fountain Hall Dorm 4 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Gainer Hall Dorm 5

TAMU / BLDG #: 0404

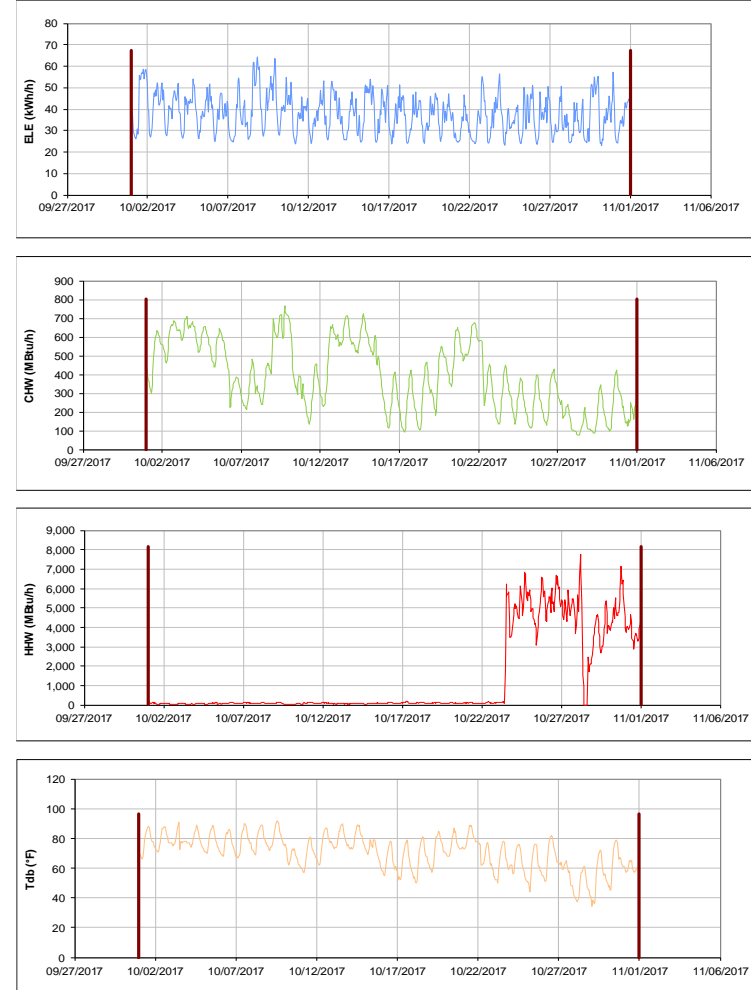


Figure III-30 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall Dorm 5 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Gainer Hall, Leonard Hall and Ash LLC

TAMU / BLDG #: 4-0406-1403

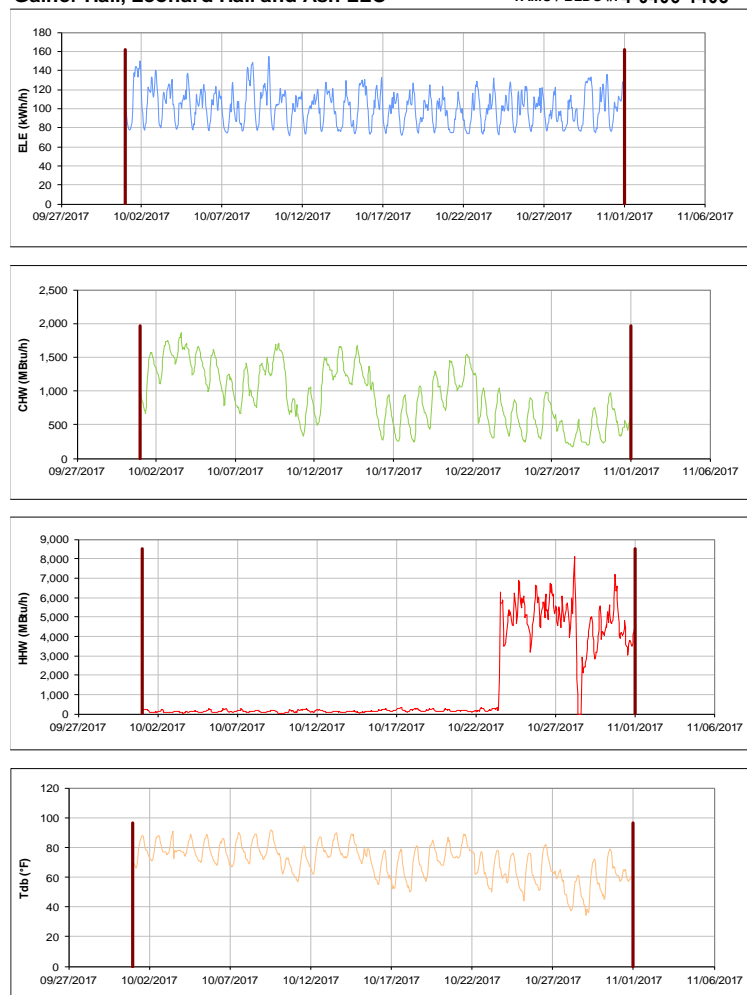


Figure III-31 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall, Leonard Hall and Ash LLC during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Lacy Hall - Dorm 6

TAMU / BLDG #: 0405

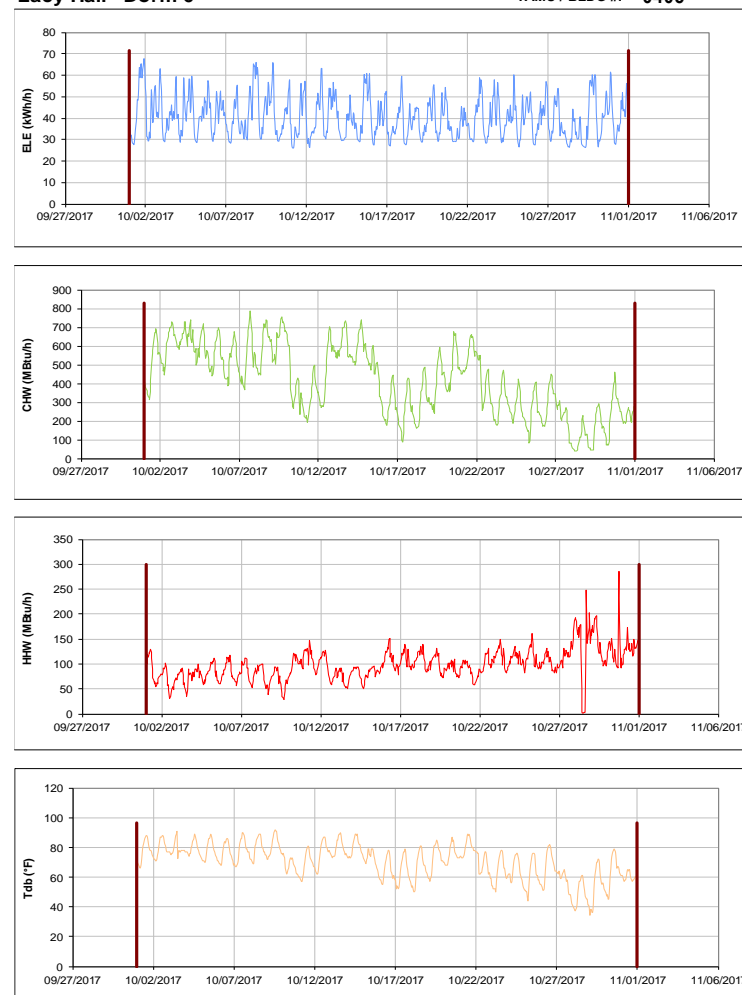


Figure III-32 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center** TAMU / BLDG #: 5-0407-1402

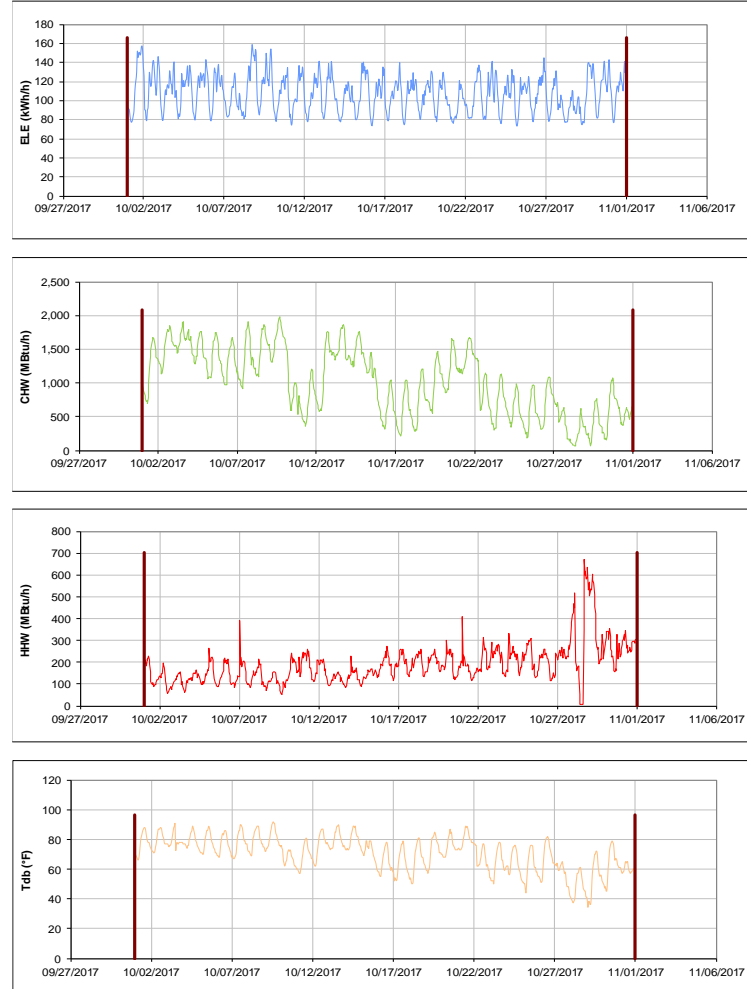


Figure III-33 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Leonard Hall - Dorm 7**

TAMU / BLDG #: 0406

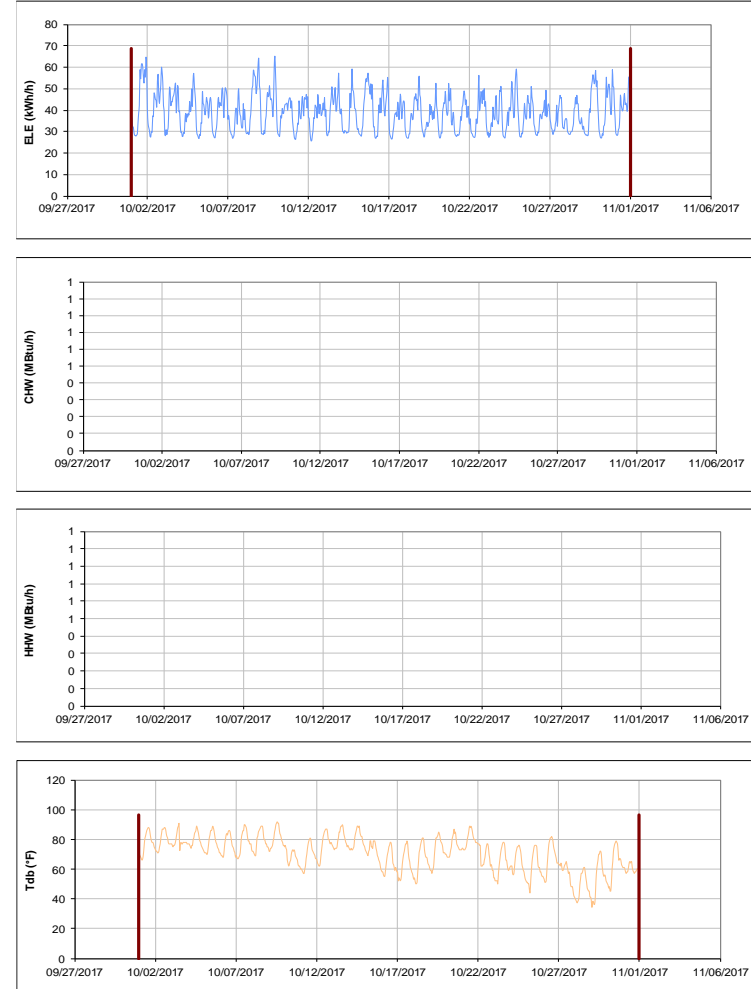


Figure III-34 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Leonard Hall - Dorm 7 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrell Hall - Dorm 8

TAMU / BLDG #: 0407

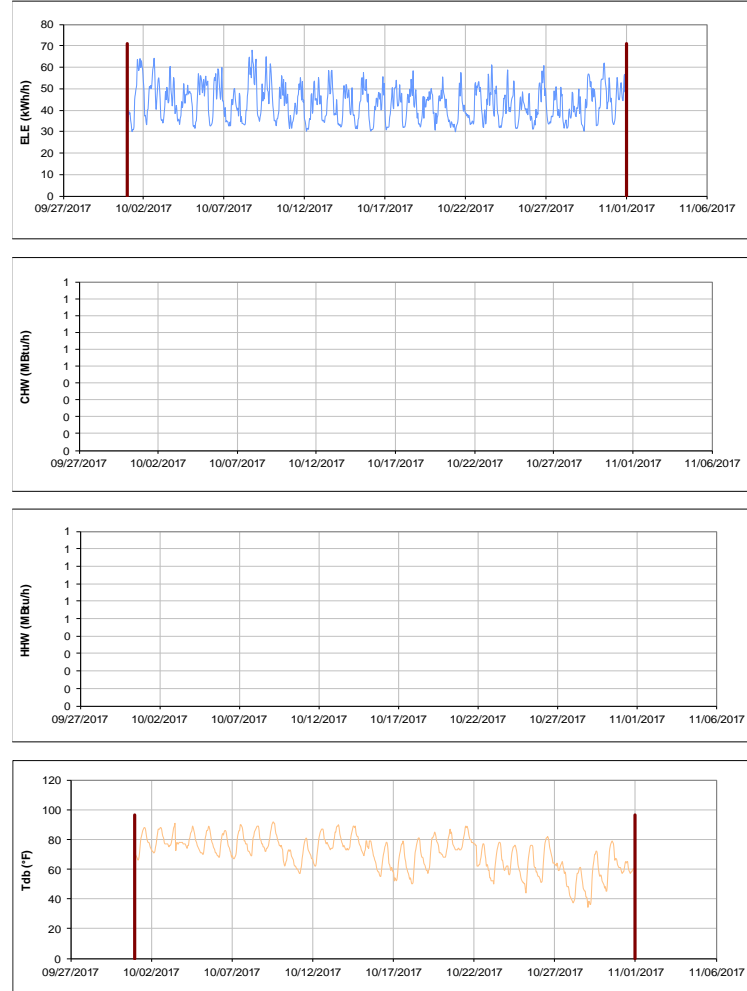


Figure III-35 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrell Hall - Dorm 8 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Whitely Hall - Dorm 9

TAMU / BLDG #: 0408

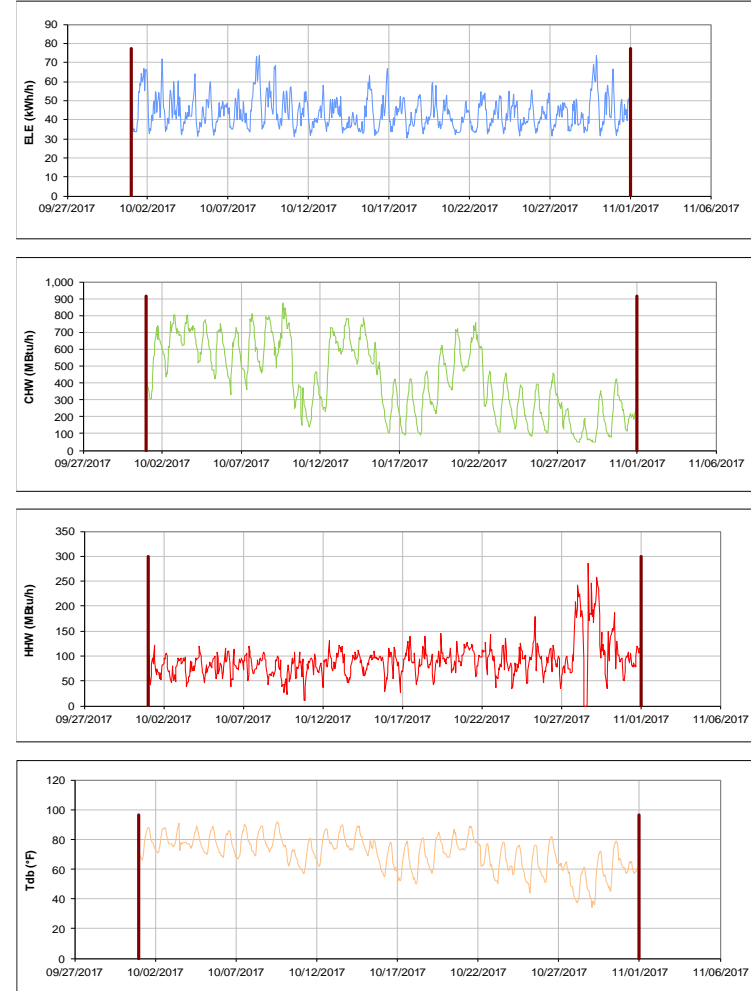


Figure III-36 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Whitely Hall - Dorm 9 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

White Hall - Dorm 10

TAMU / BLDG #: 0409



Figure III-37 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Hall - Dorm 10 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Hall - Dorm 11

TAMU / BLDG #: 0410

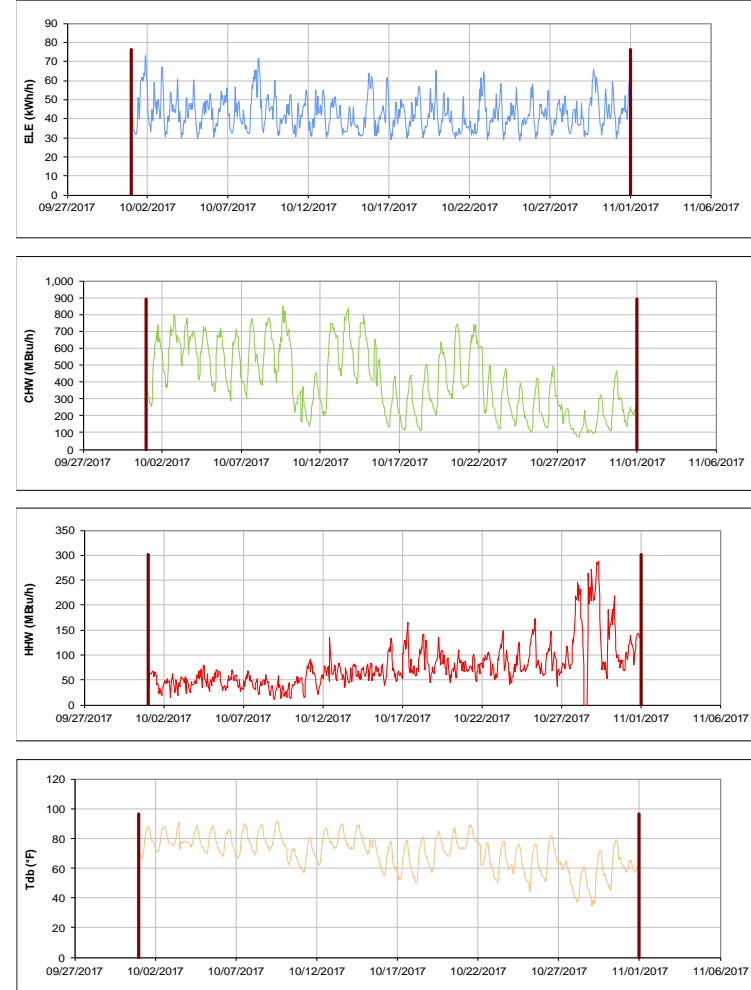


Figure III-38 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Hall - Dorm 11 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utay Hall - Dorm 12

TAMU / BLDG #: 0411



Figure III-39 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utay Hall - Dorm 12 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Moses Residence Hall

TAMU / BLDG #: 0412



Figure III-40 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Moses Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Davis-Gary Residence Hall

TAMU / BLDG #: 0415

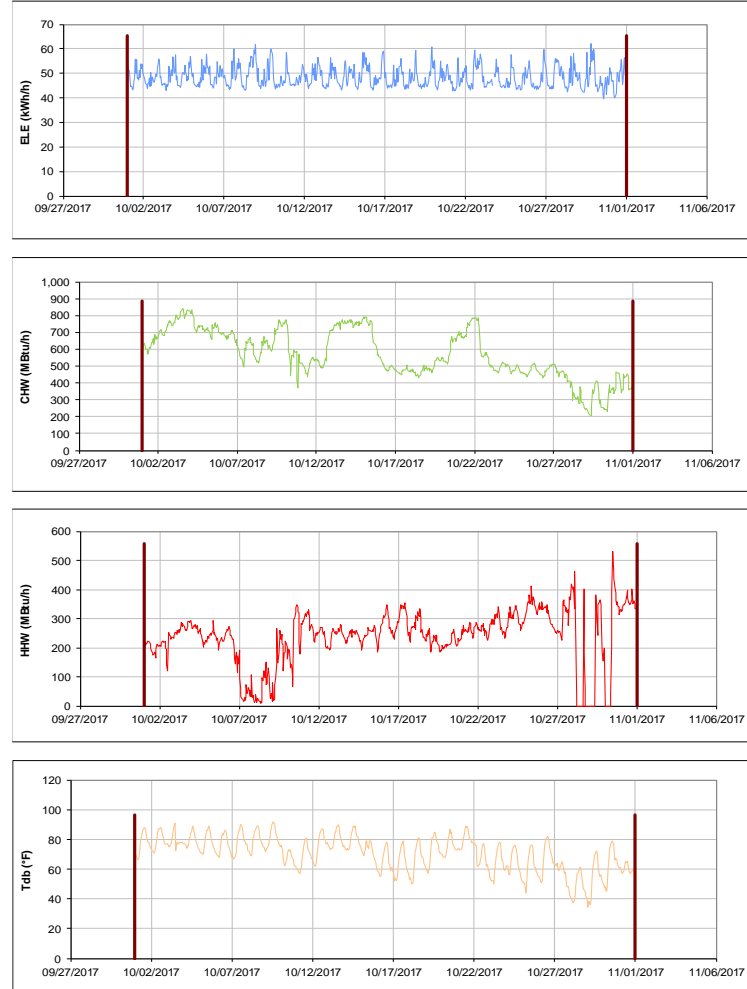


Figure III-41 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis-Gary Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Legett Residence Hall

TAMU / BLDG #: 0419



Figure III-42 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Legett Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-43 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Milner Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

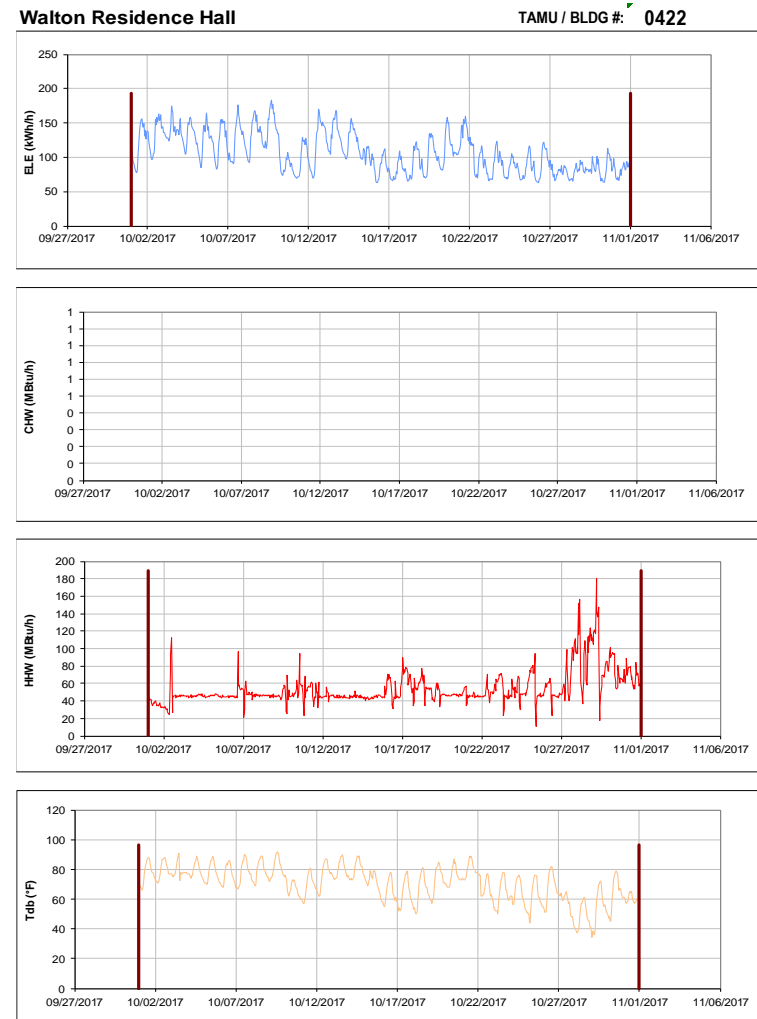


Figure III-44 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Walton Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

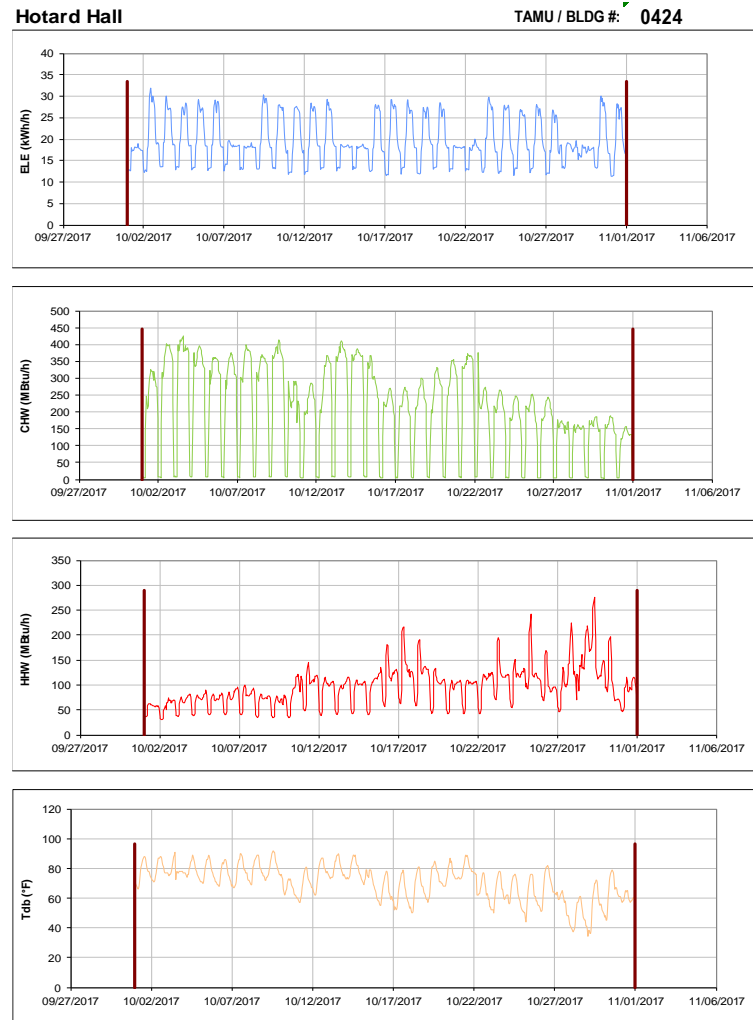


Figure III-45 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hotard Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-46 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Henderson Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

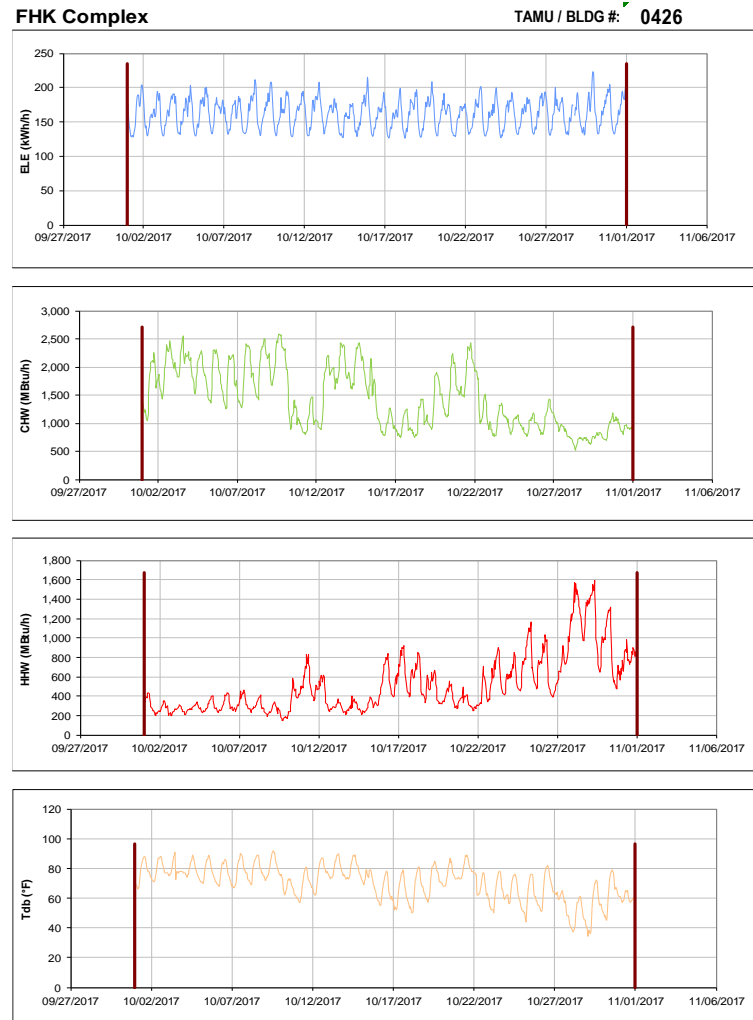


Figure III-47 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for FBK Complex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

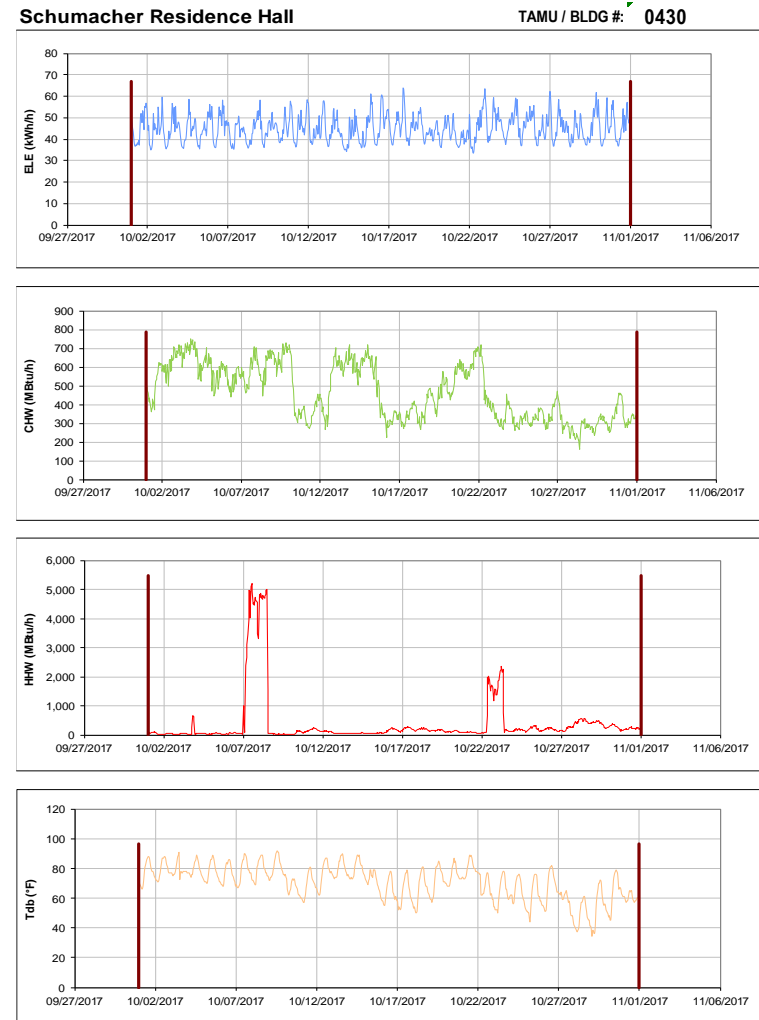


Figure III-48 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Schumacher Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Architecture Building C

TAMU / BLDG #: 0432

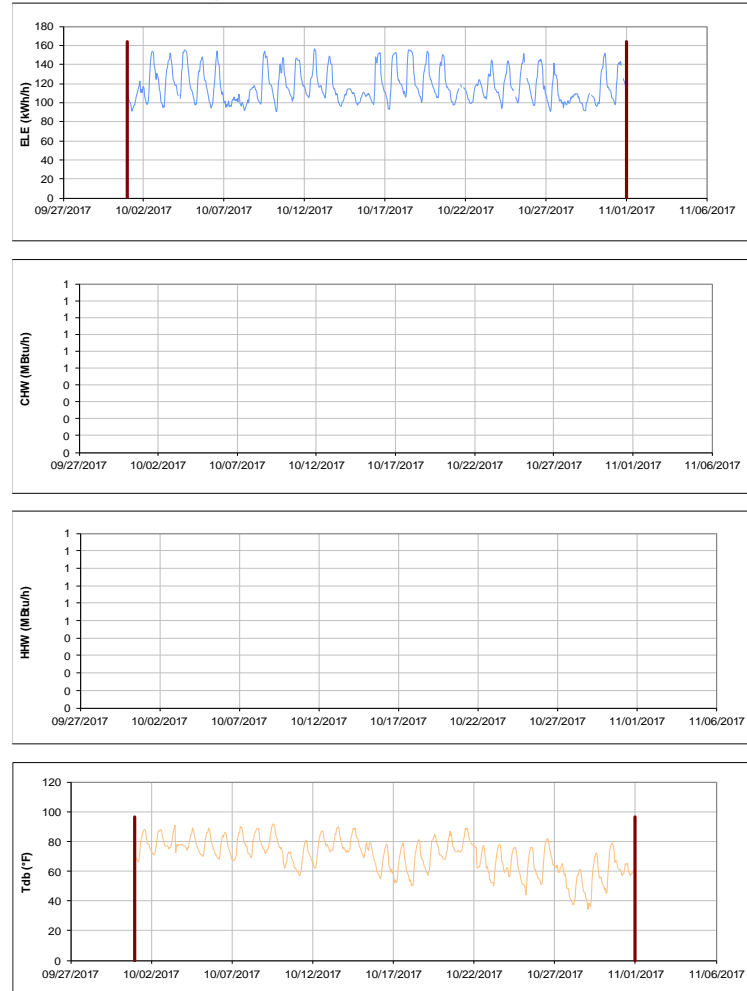


Figure III-49 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building C during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Mosher Residence Hall

TAMU / BLDG #: 0433



Figure III-50 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Mosher Commons Krueger Dunn Aston** TAMU / BLDG #: 0-0441-0442-0447

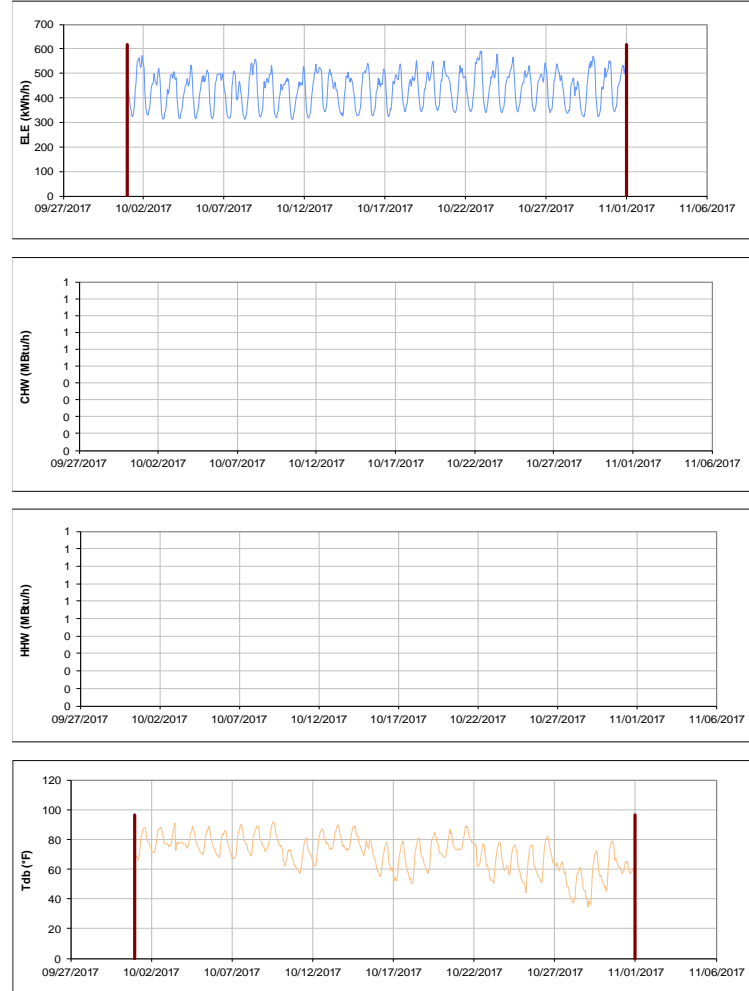


Figure III-51 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Commons Krueger Dunn Aston during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Luedecke Building (Cyclotron)** TAMU / BLDG #: 0434

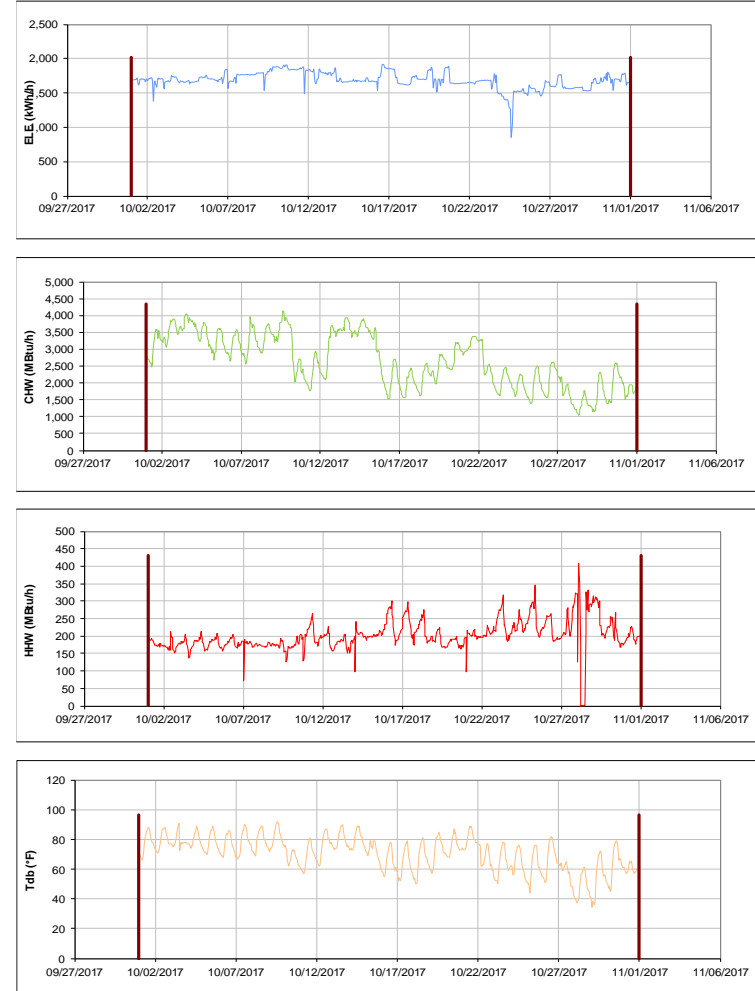


Figure III-52 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Luedecke Building (Cyclotron) during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Education Center Office Tower

TAMU / BLDG #: 0435



Figure III-53 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Office Tower during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed-McDonald Building

TAMU / BLDG #: 0436

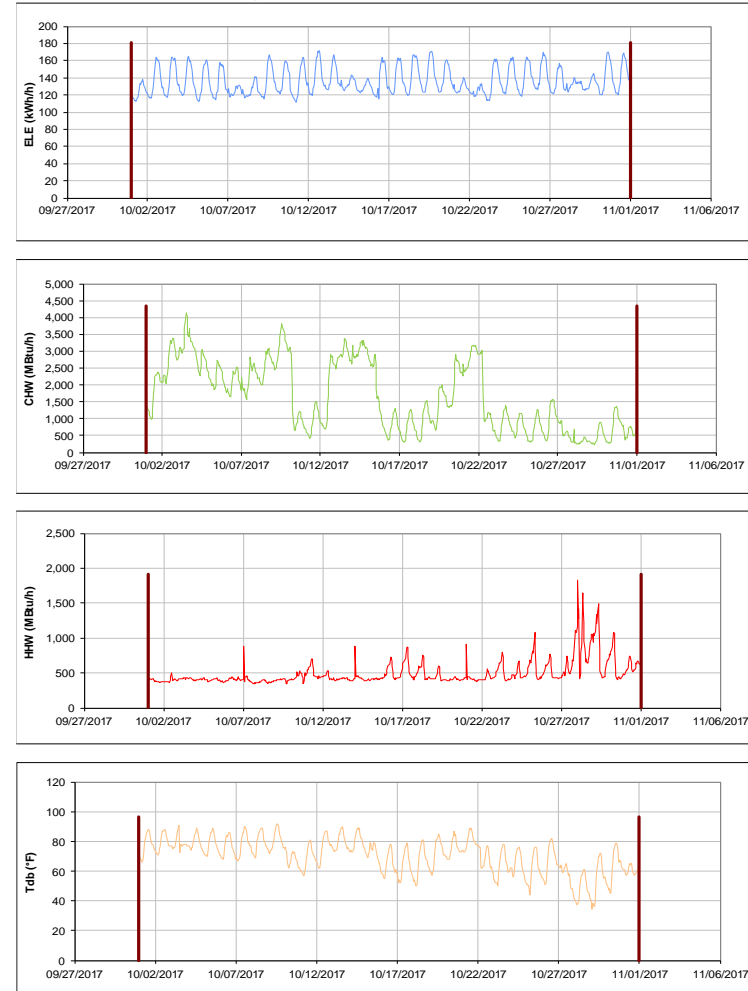


Figure III-54 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed-McDonald and Engineering Innovation Center TAMU / BLDG #: 1436-0499

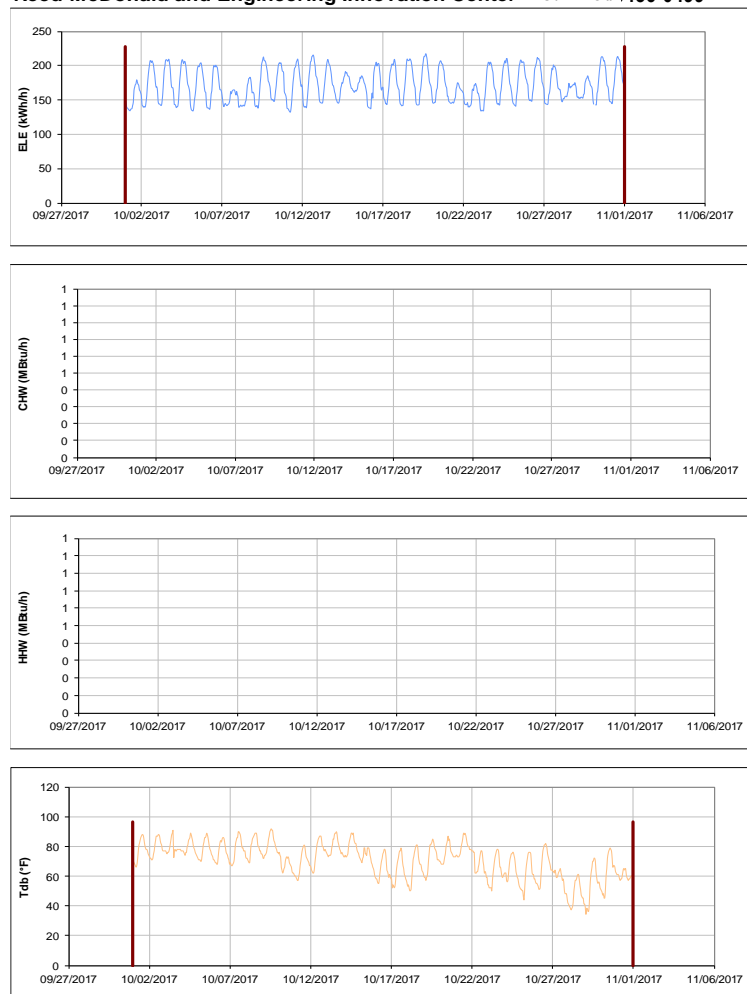


Figure III-55 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald and Engineering Innovation Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Education Center Classroom Building TAMU / BLDG #: 0438

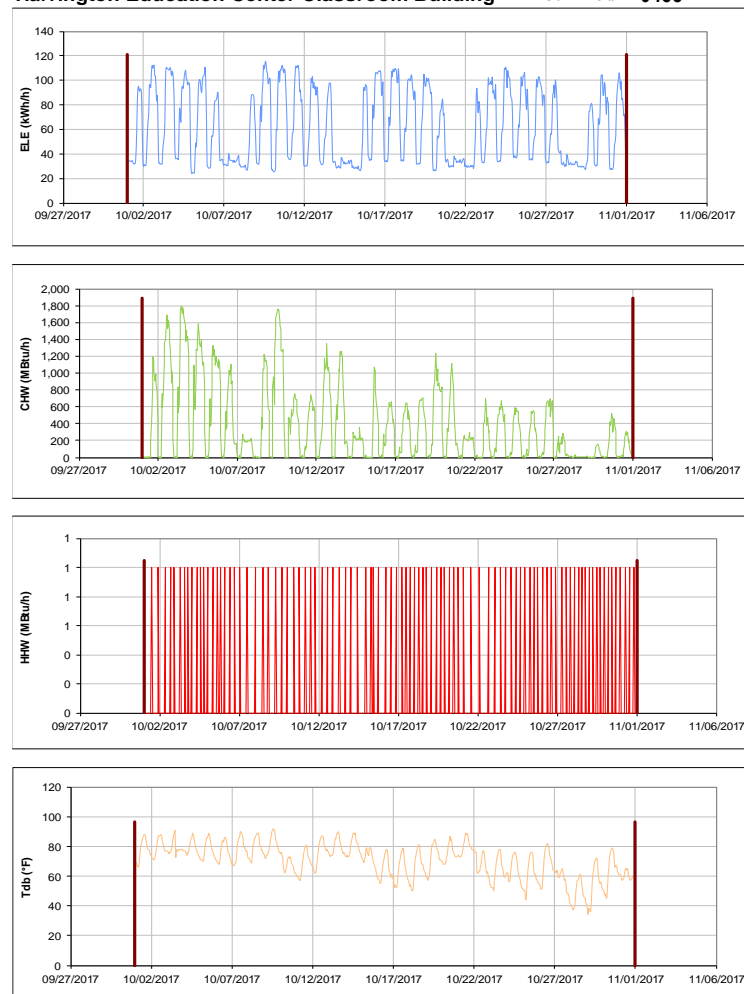


Figure III-56 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Classroom Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



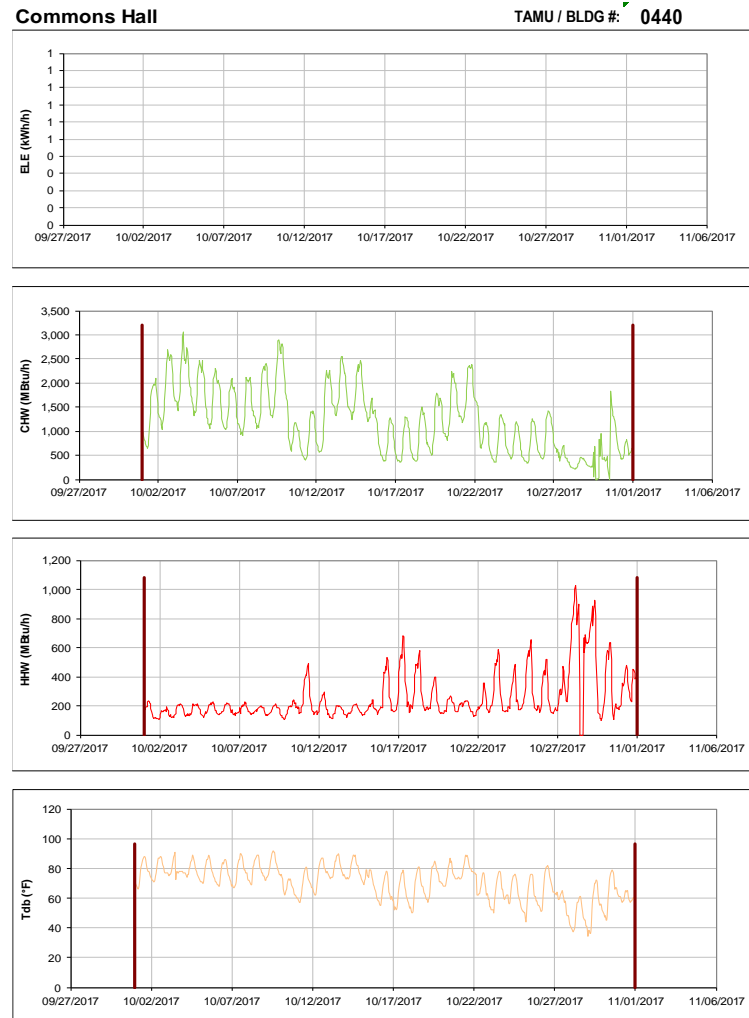


Figure III-57 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

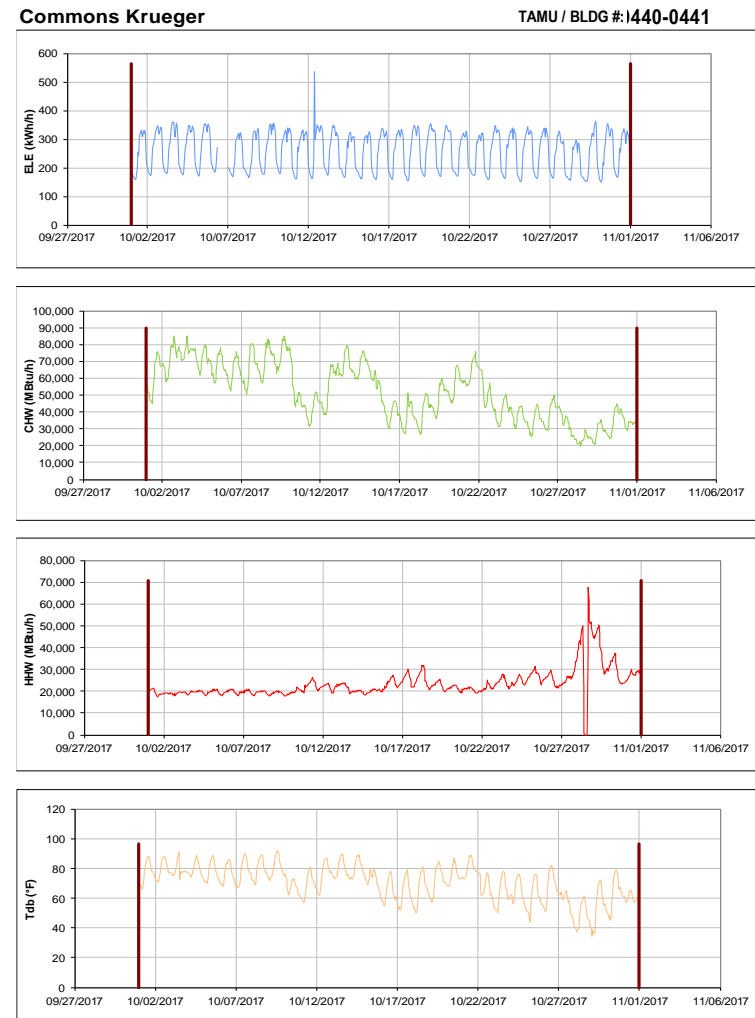


Figure III-58 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Krueger during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Krueger Residence Hall**

TAMU / BLDG #: 0441



Figure III-59 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Krueger Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Dunn Residence Hall**

TAMU / BLDG #: 0442



Figure III-60 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dunn Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-61 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Oceanography & Meteorology Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-62 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Peterson Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Teague Research Center

TAMU / BLDG #: 0445



Figure III-63 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Teague Research Center and DPC Annex

TAMU / BLDG #: 1445-0517

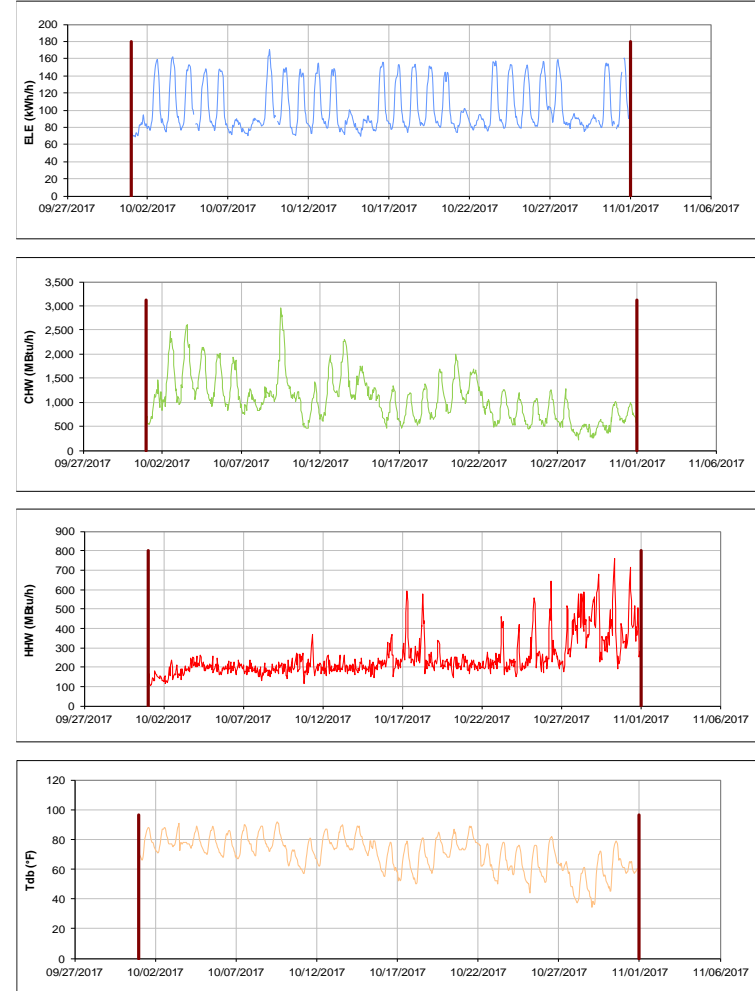


Figure III-64 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center and DPC Annex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Tower and Theatre Complex

TAMU / BLDG #: 0446

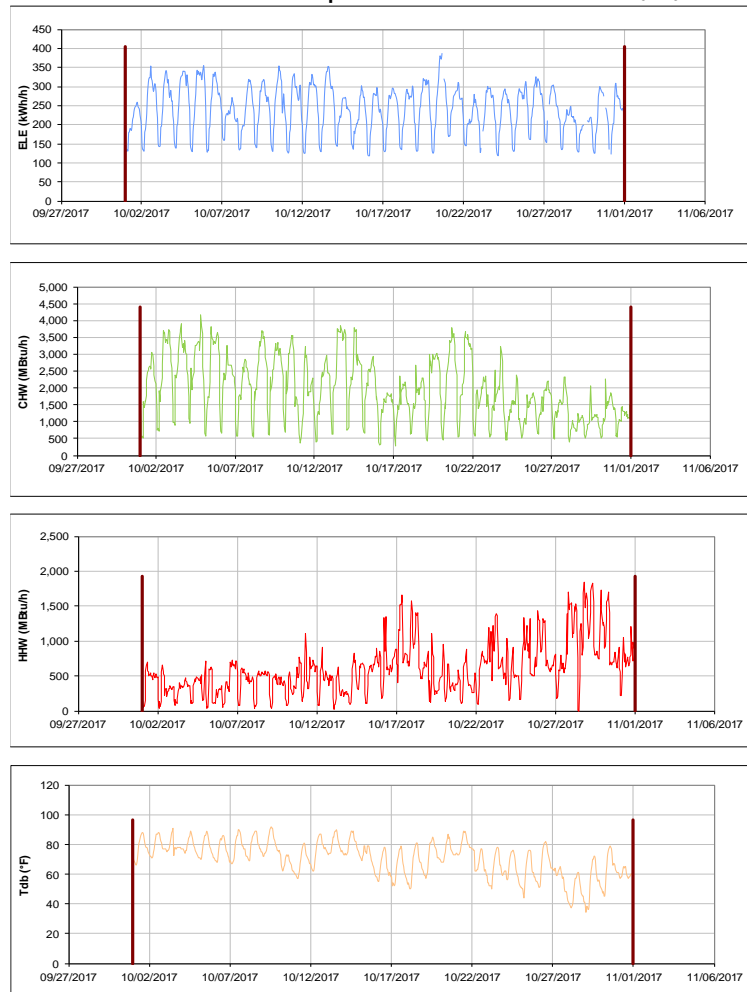


Figure III-65 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower and Theatre Complex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Theatre Complex

TAMU / BLDG #: 0446-A



Figure III-66 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Theatre Complex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

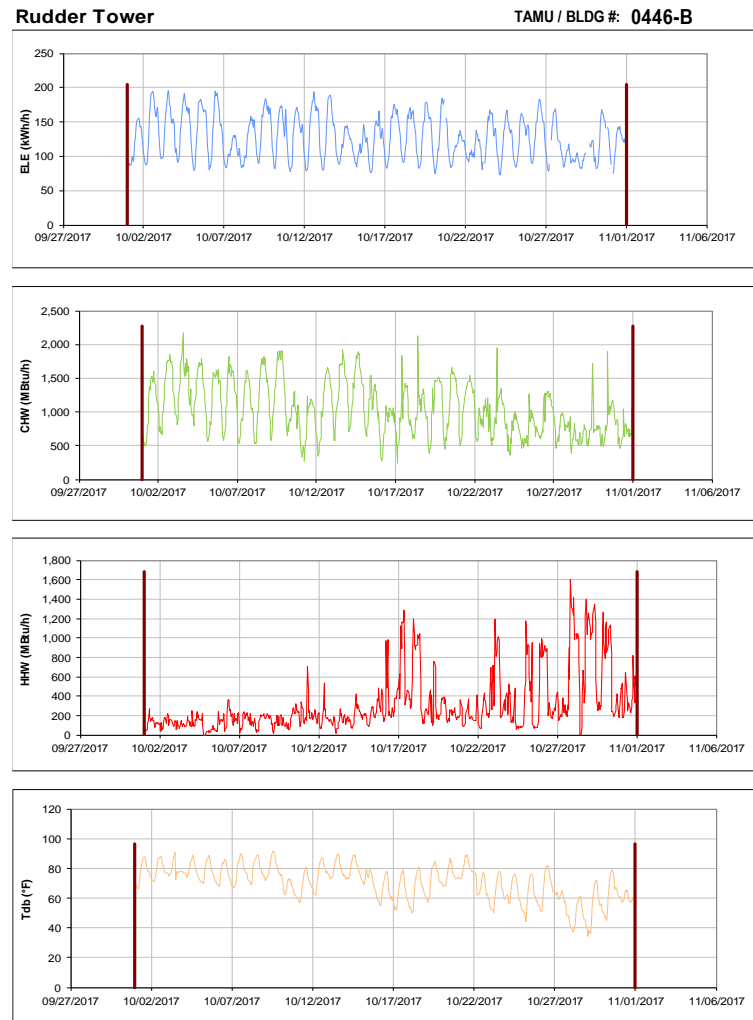


Figure III-67 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

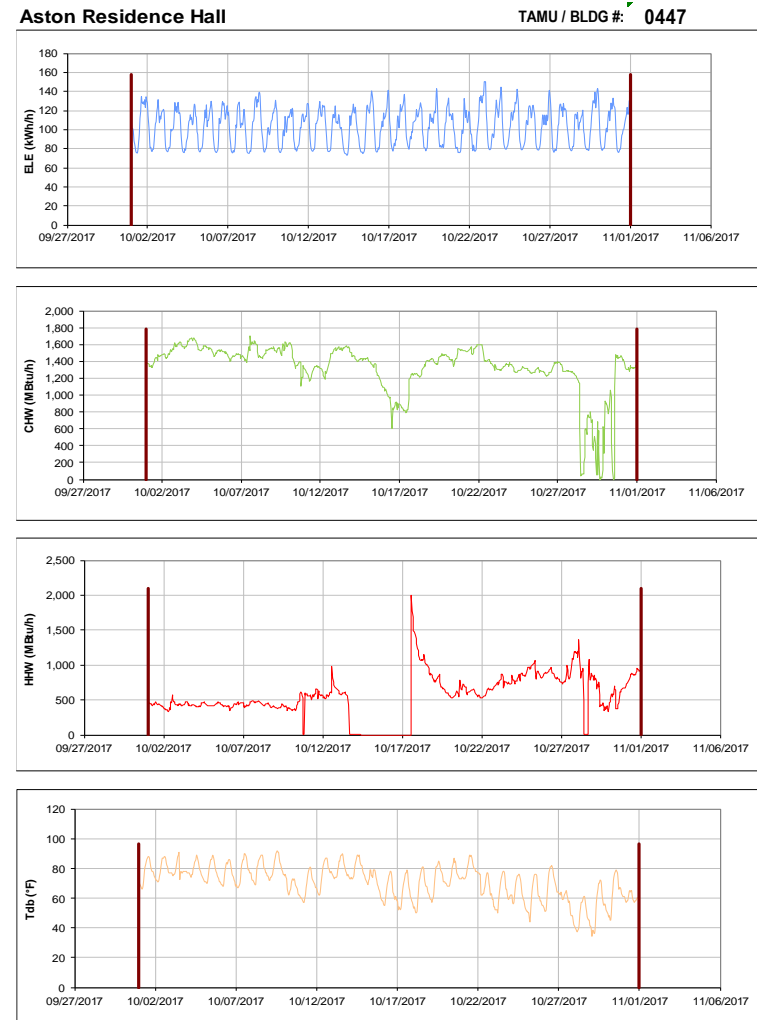


Figure III-68 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Aston Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-69 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Adams Band Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-70 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - West during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

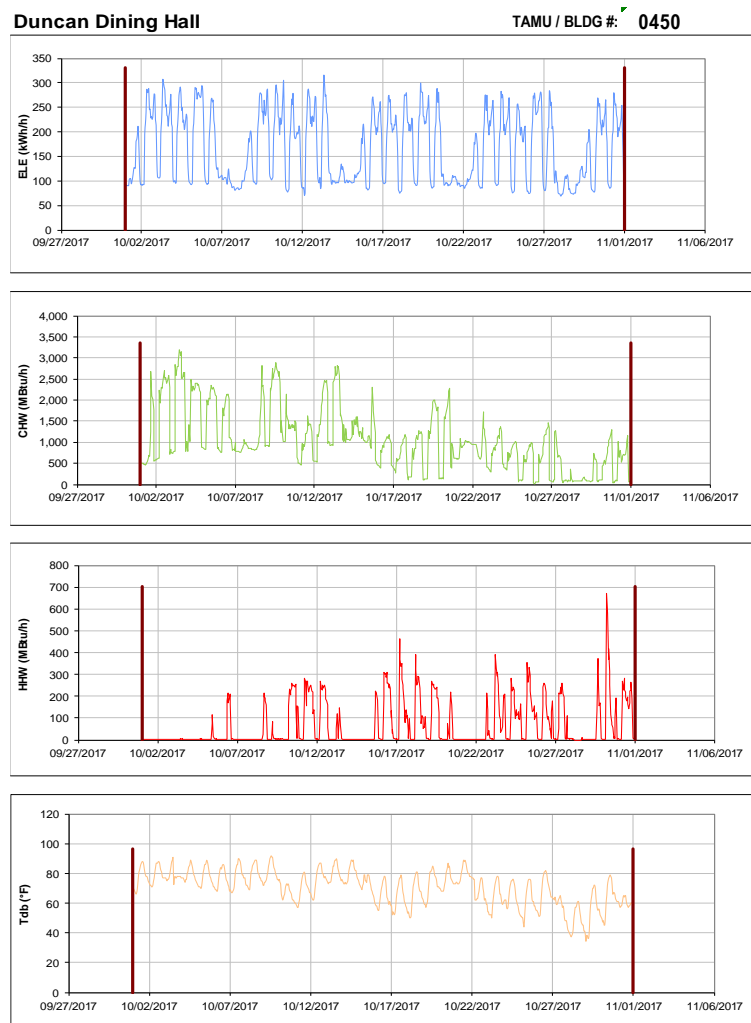


Figure III-71 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Duncan Dining Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

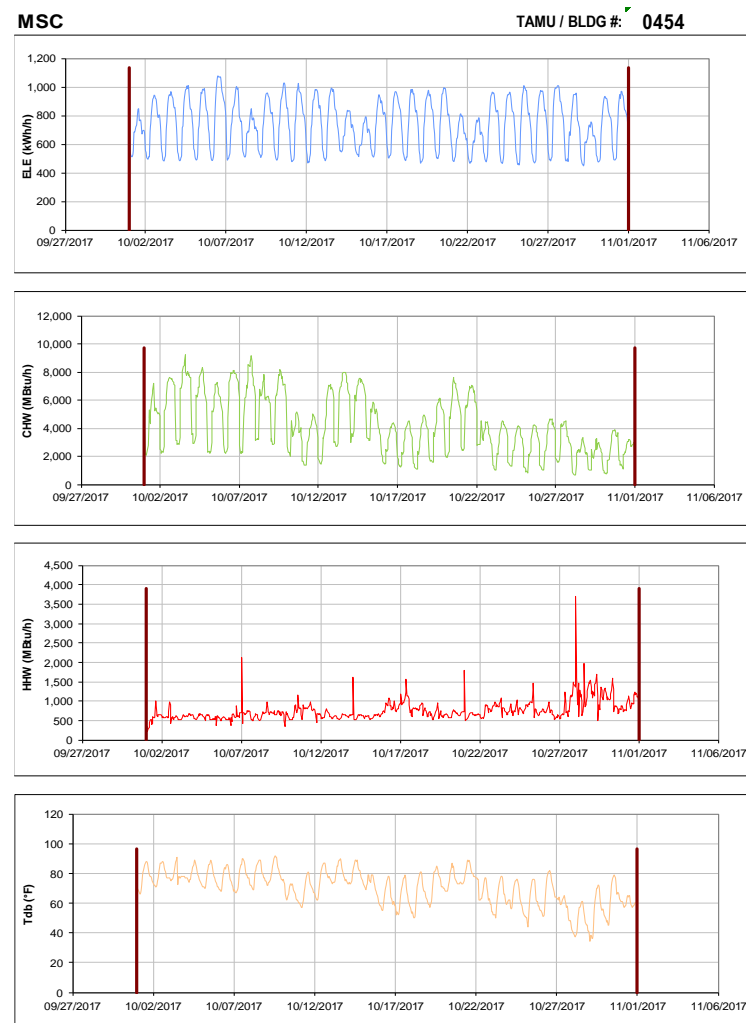


Figure III-72 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for MSC during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



**Military Sciences Building**

TAMU / BLDG #: 0456

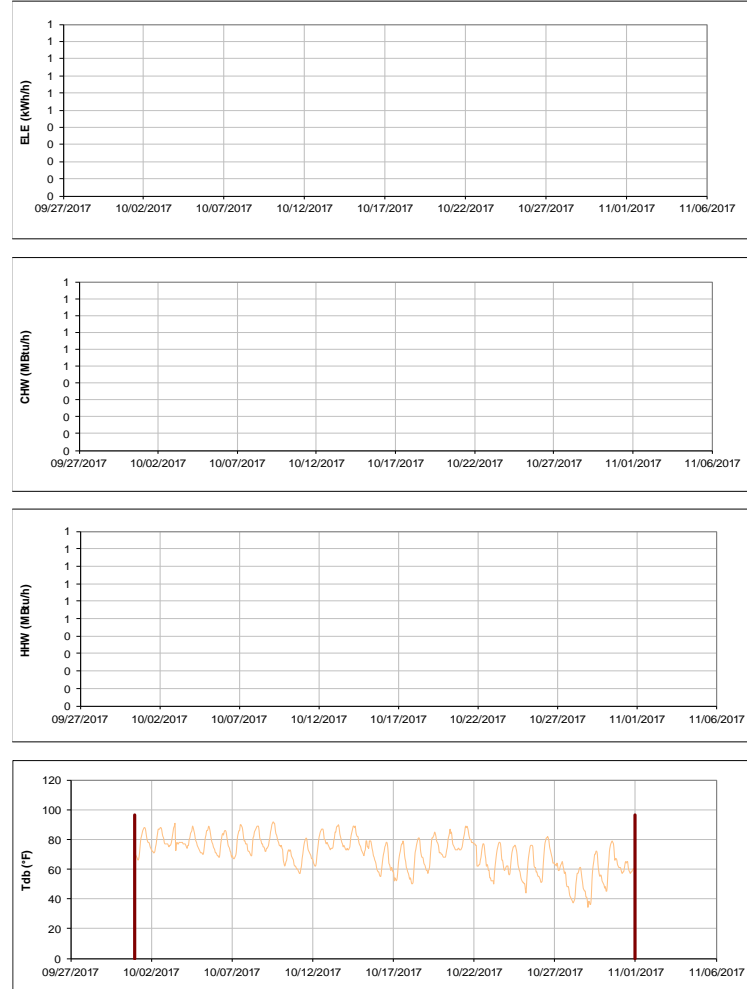


Figure III-73 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Military Sciences Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**TAES Annex Building**

TAMU / BLDG #: 0457

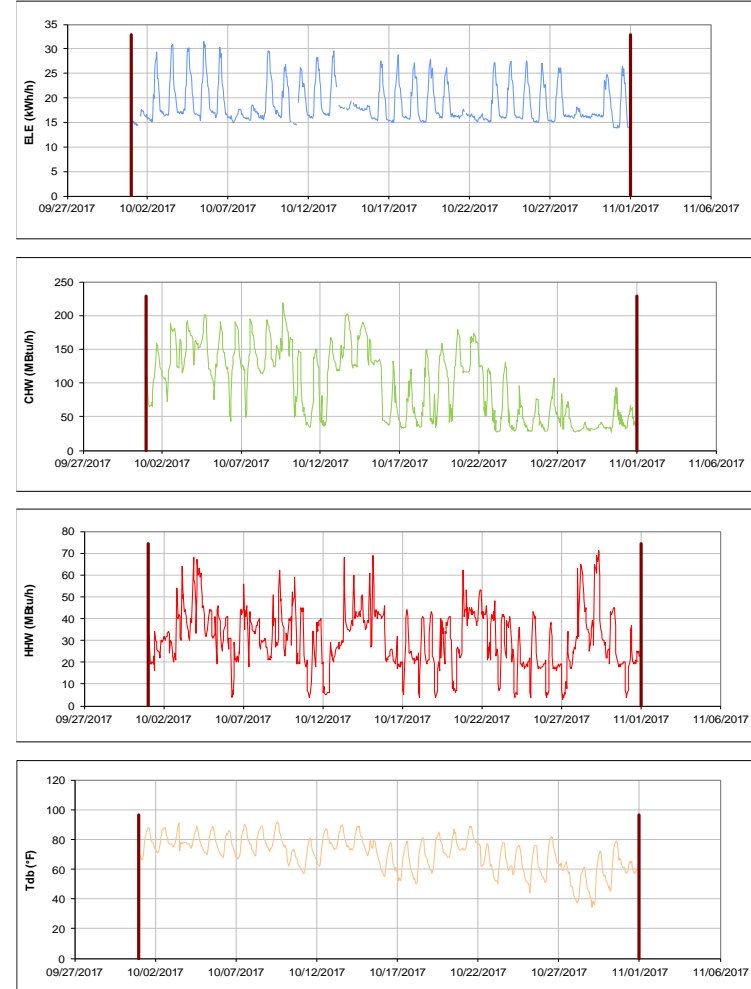


Figure III-74 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TAES Annex Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-75 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Coke Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

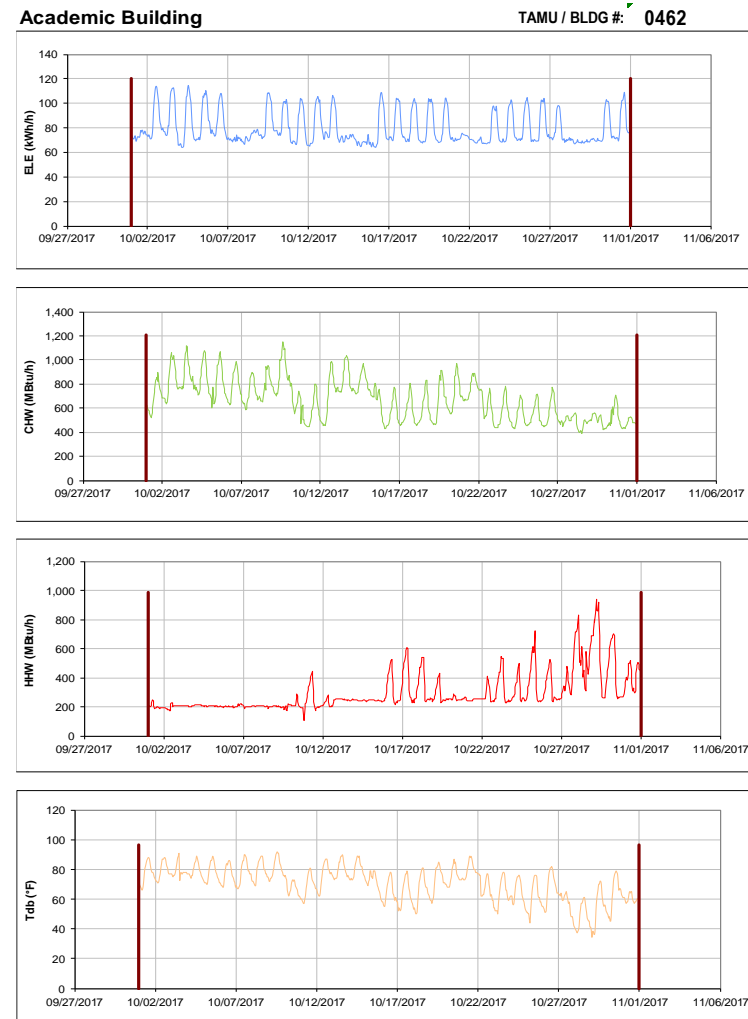


Figure III-76 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Academic Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Psychology Building**

TAMU / BLDG #: 0463

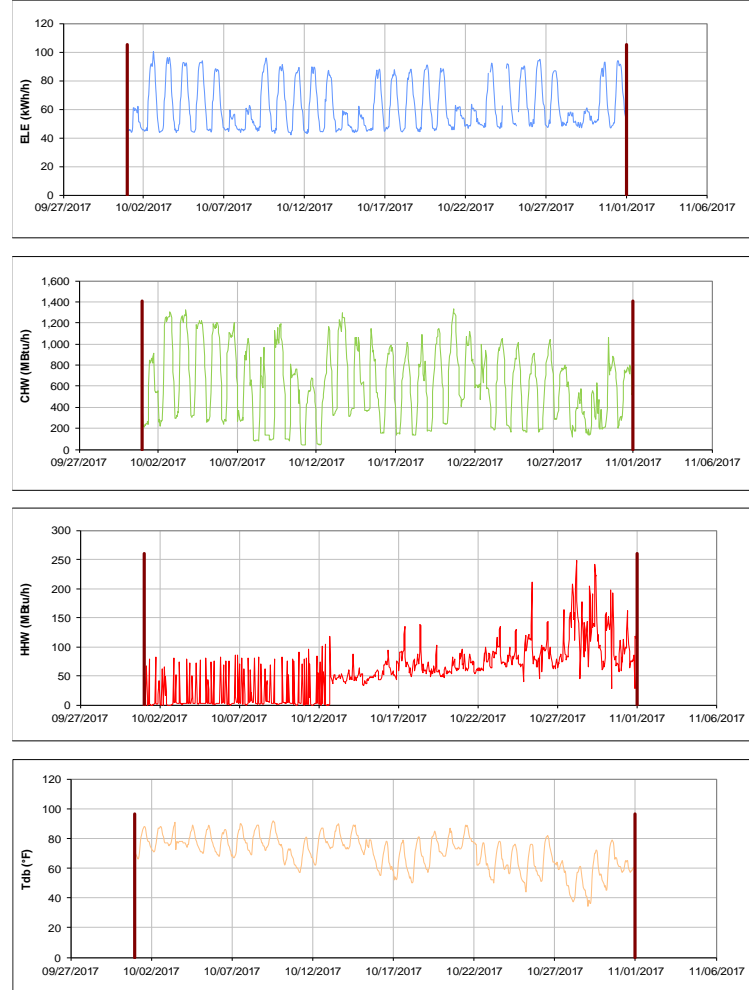


Figure III-77 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Psychology Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**State Chemist Building**

TAMU / BLDG #: 0464

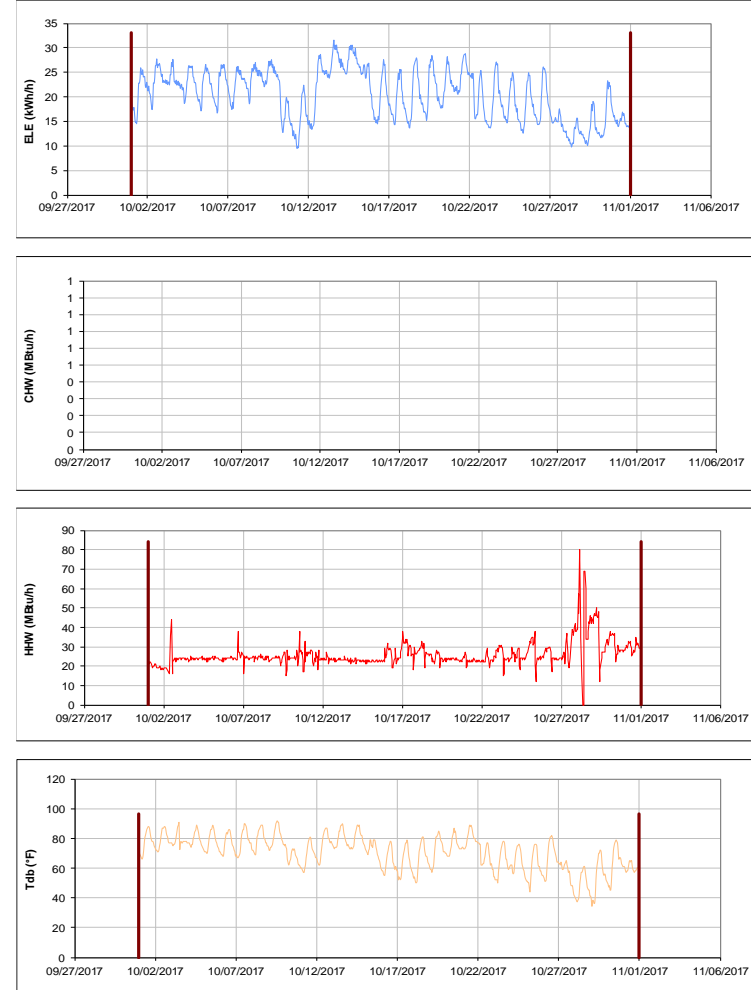


Figure III-78 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for State Chemist Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

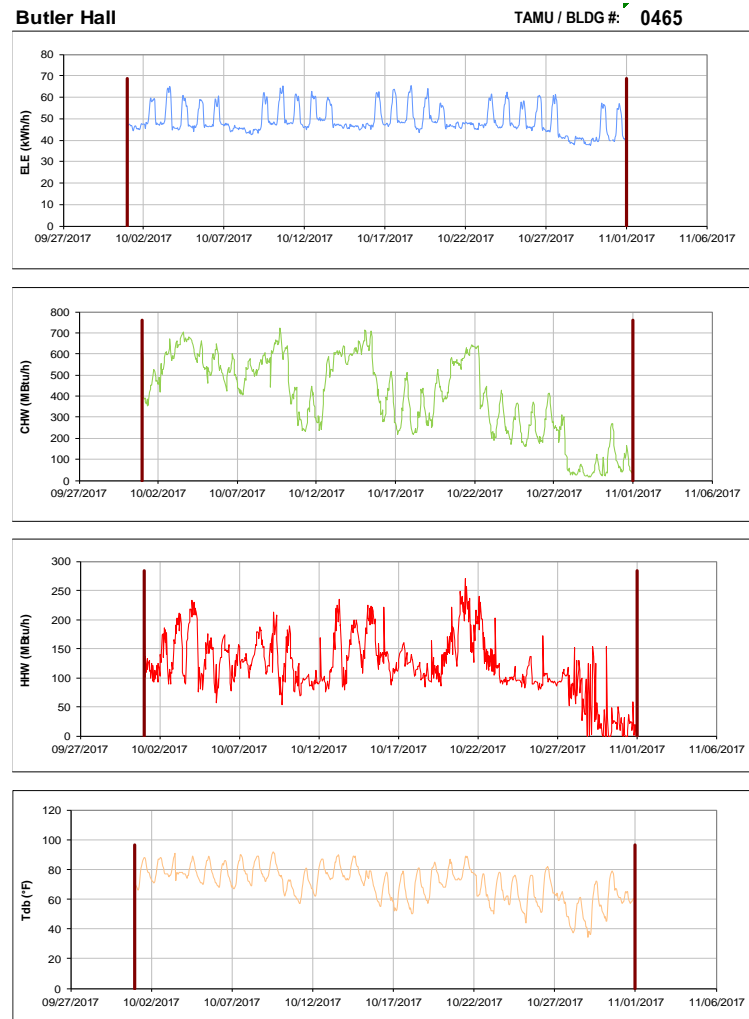


Figure III-79 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Butler Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

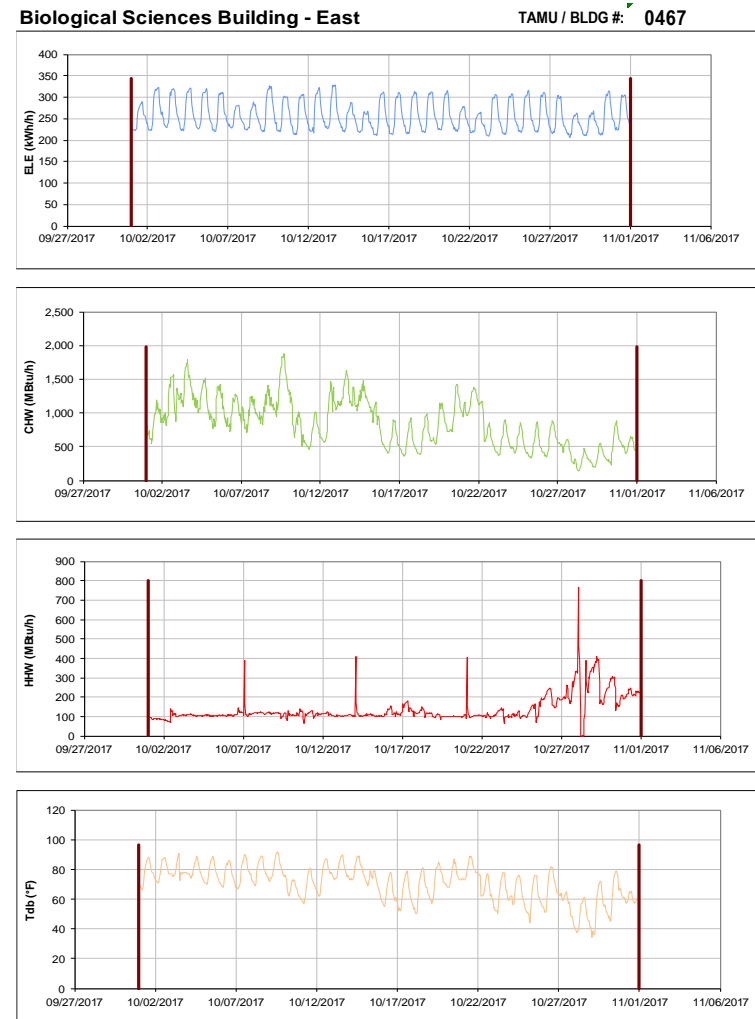


Figure III-80 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - East during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

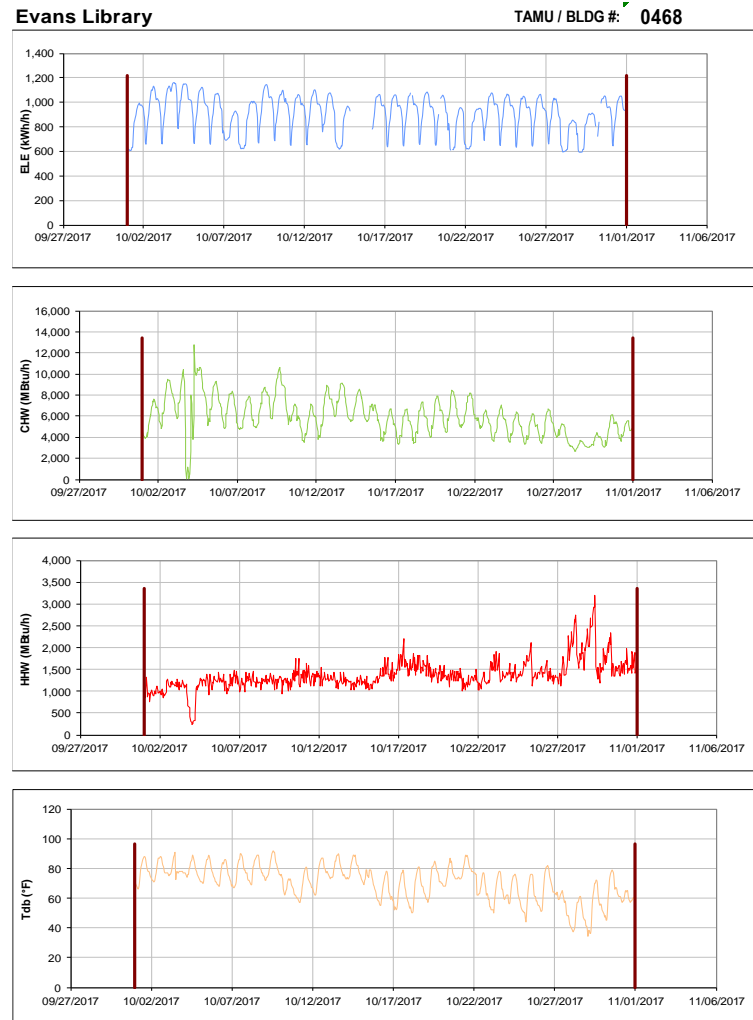


Figure III-81 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Evans Library during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

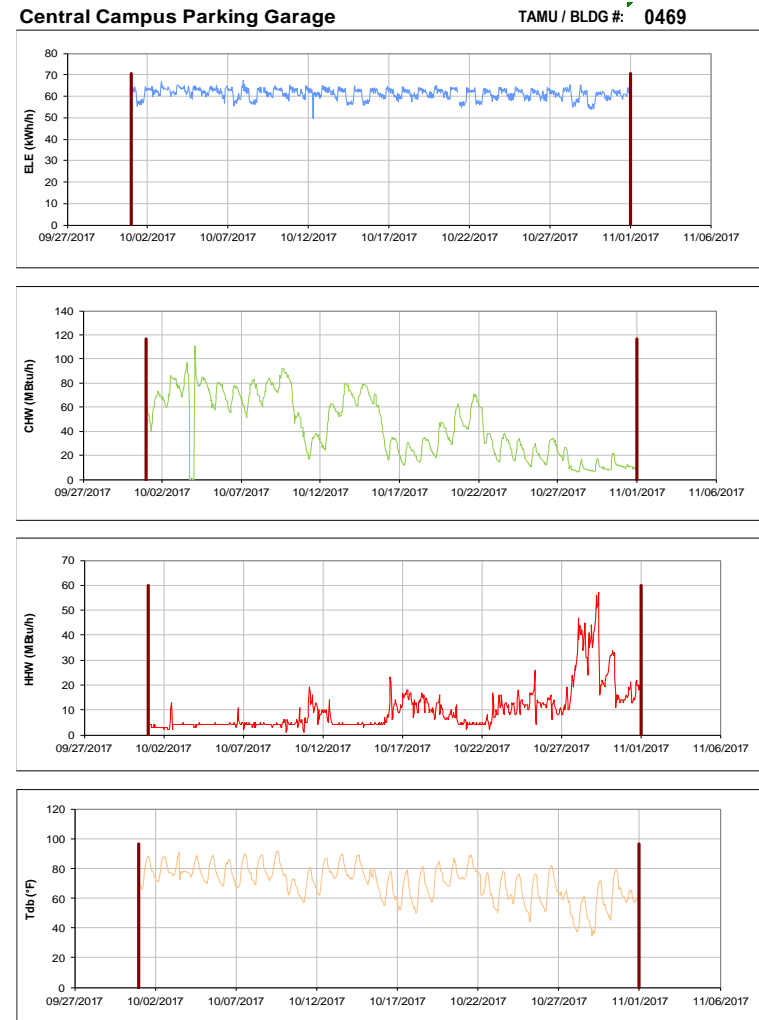


Figure III-82 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Central Campus Parking Garage during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Glasscock History Bldg

TAMU / BLDG #: 0470

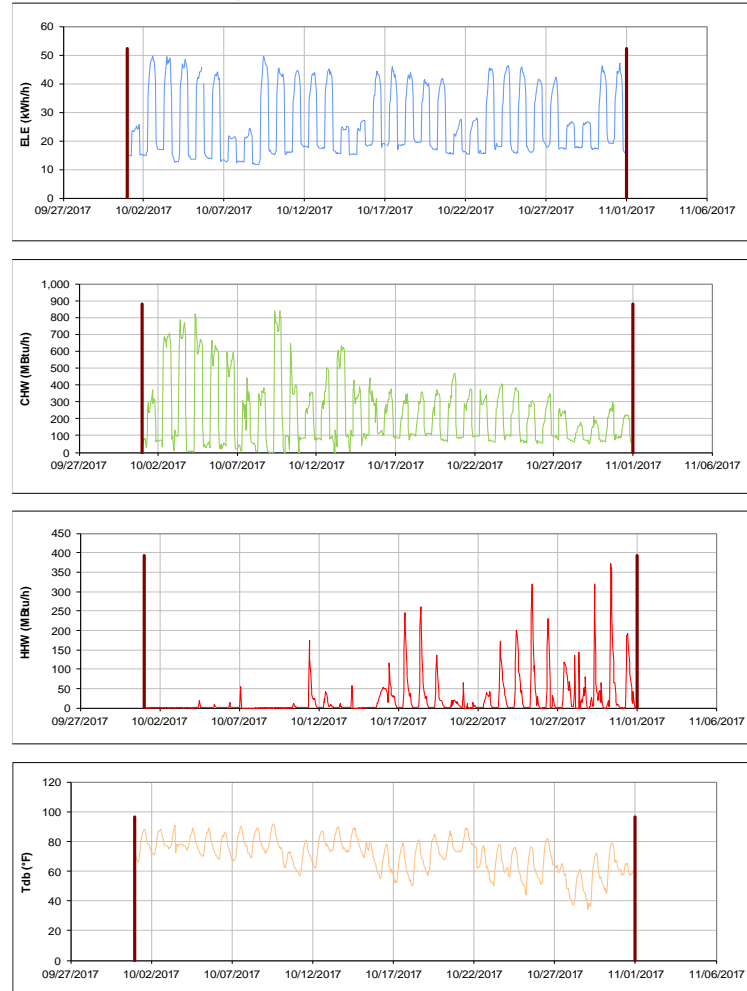


Figure III-83 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Glasscock History Bldg during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Pavilion

TAMU / BLDG #: 0471



Figure III-84 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Pavilion during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

# Animal Industries

TAMU / BLDG #: 0472

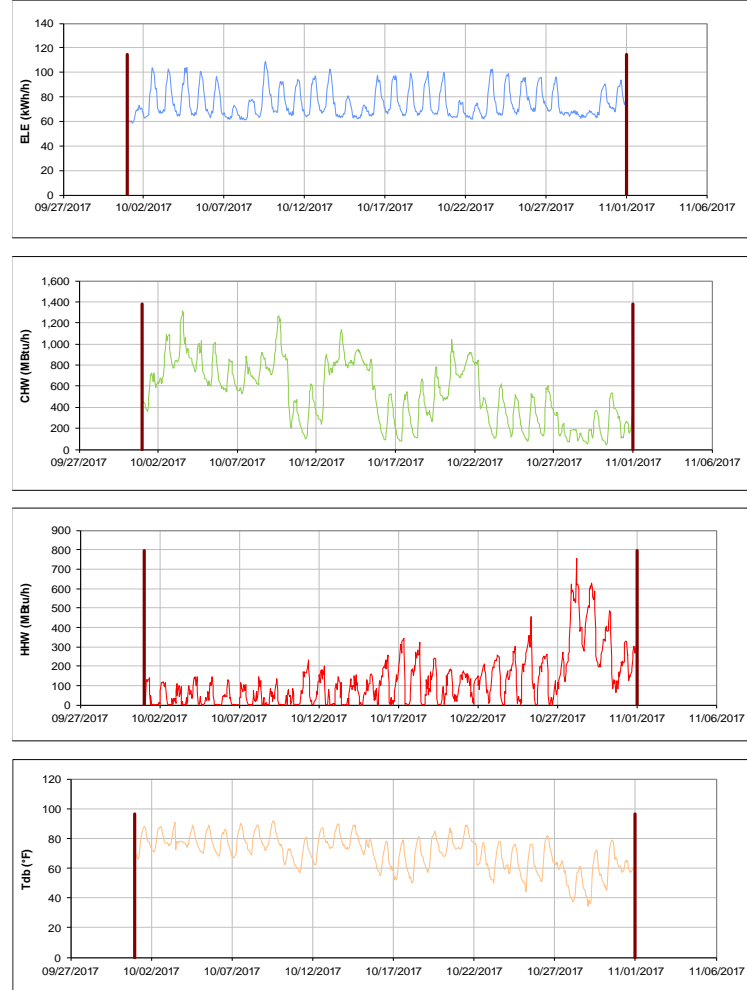


Figure III-85 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Animal Industries during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

# Williams Administration Building

TAMU / BLDG #: 0473

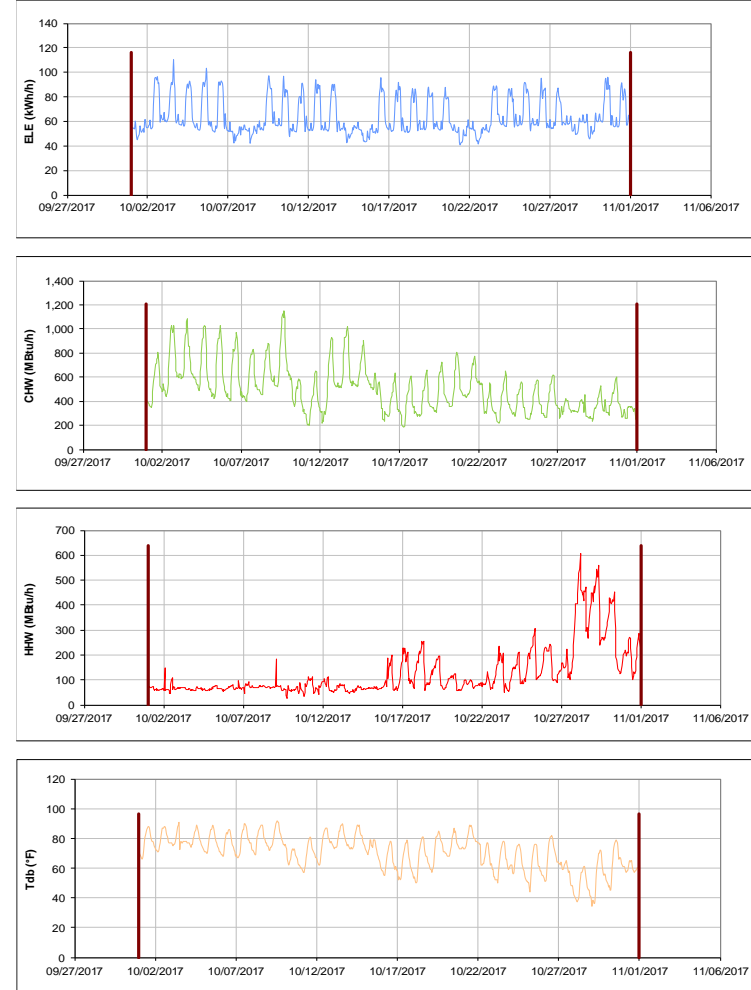


Figure III-86 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Williams Administration Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

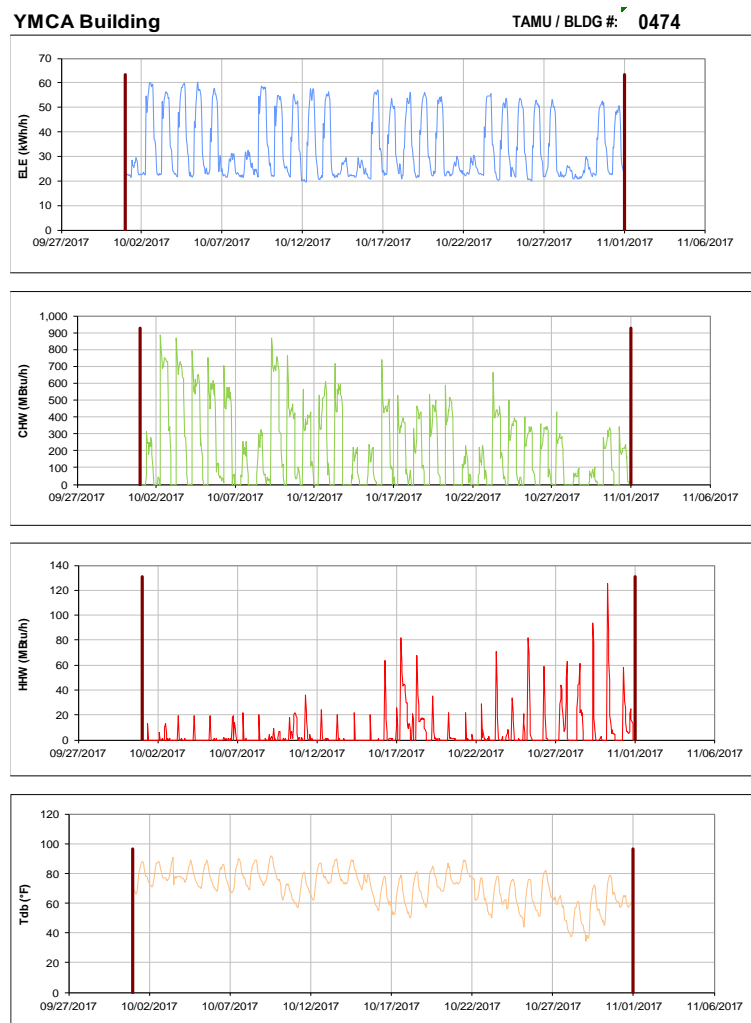


Figure III-87 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for YMCA Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

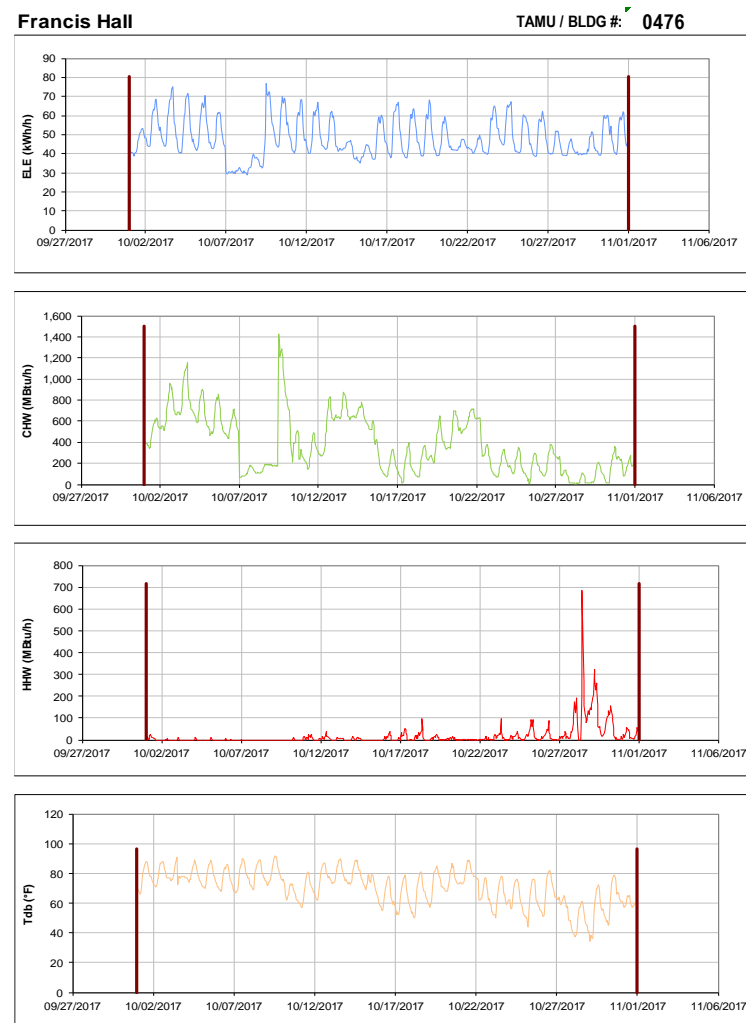


Figure III-88 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Francis Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



**Anthropology Building**

TAMU / BLDG #: 0477

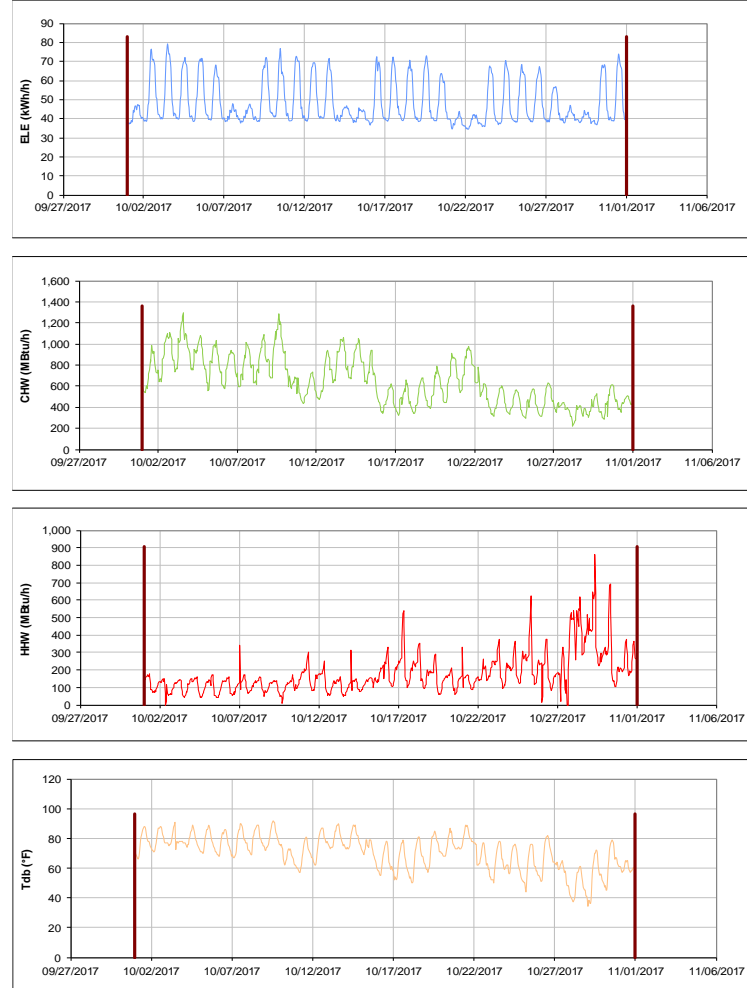


Figure III-89 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Anthropology Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Scoates Hall**

TAMU / BLDG #: 0478

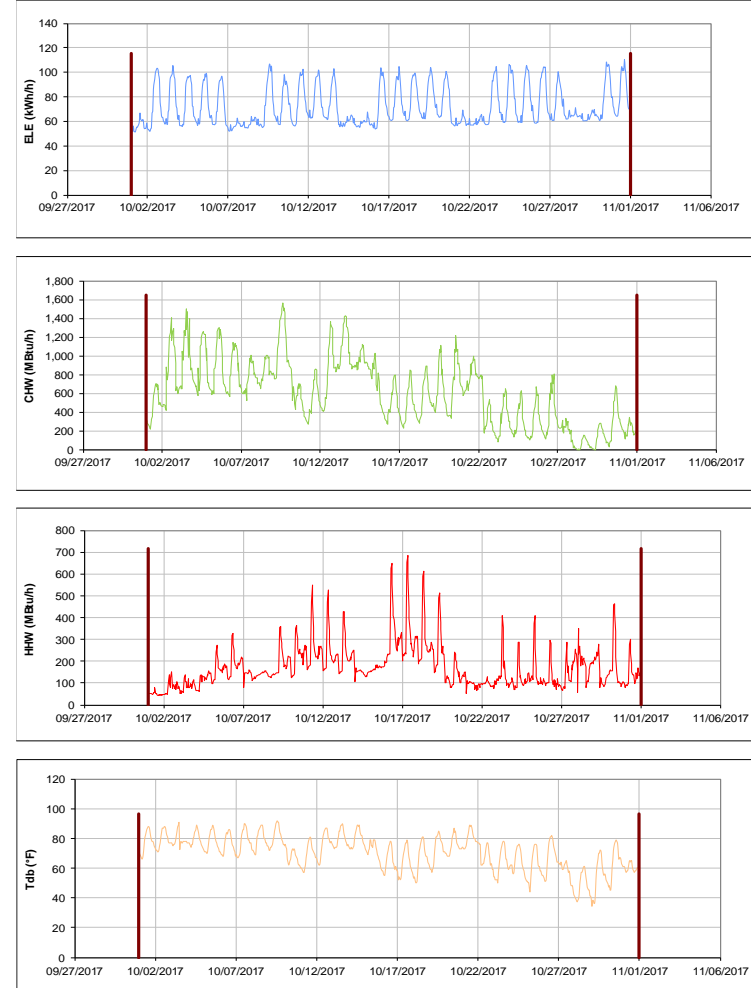


Figure III-90 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Scoates Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

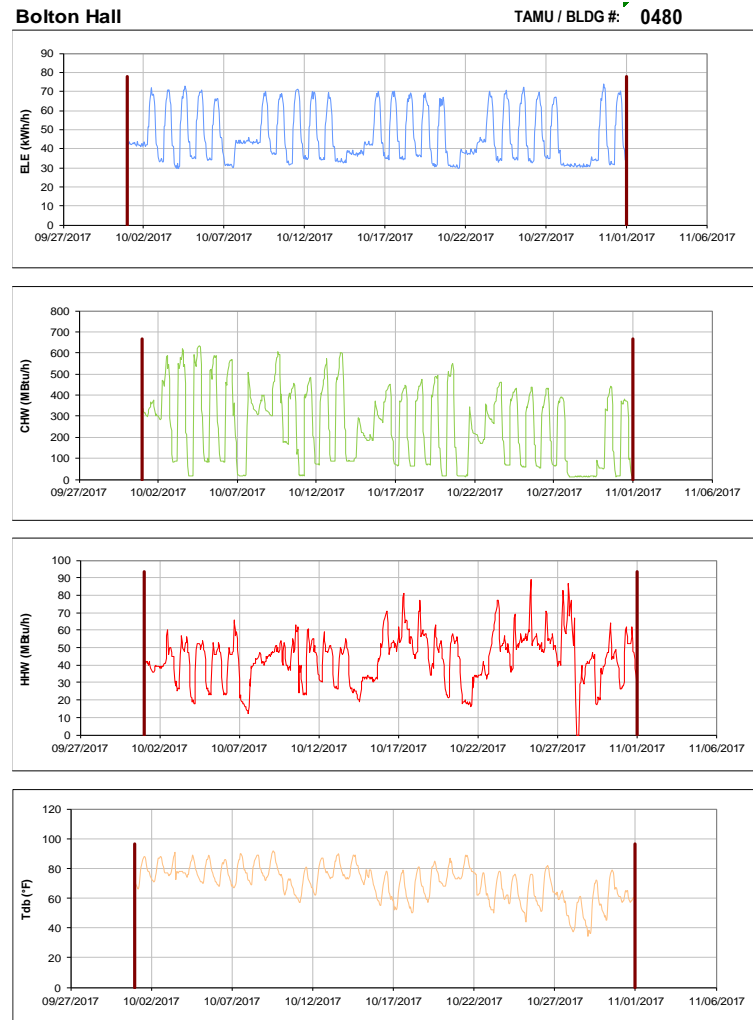


Figure III-91 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bolton Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

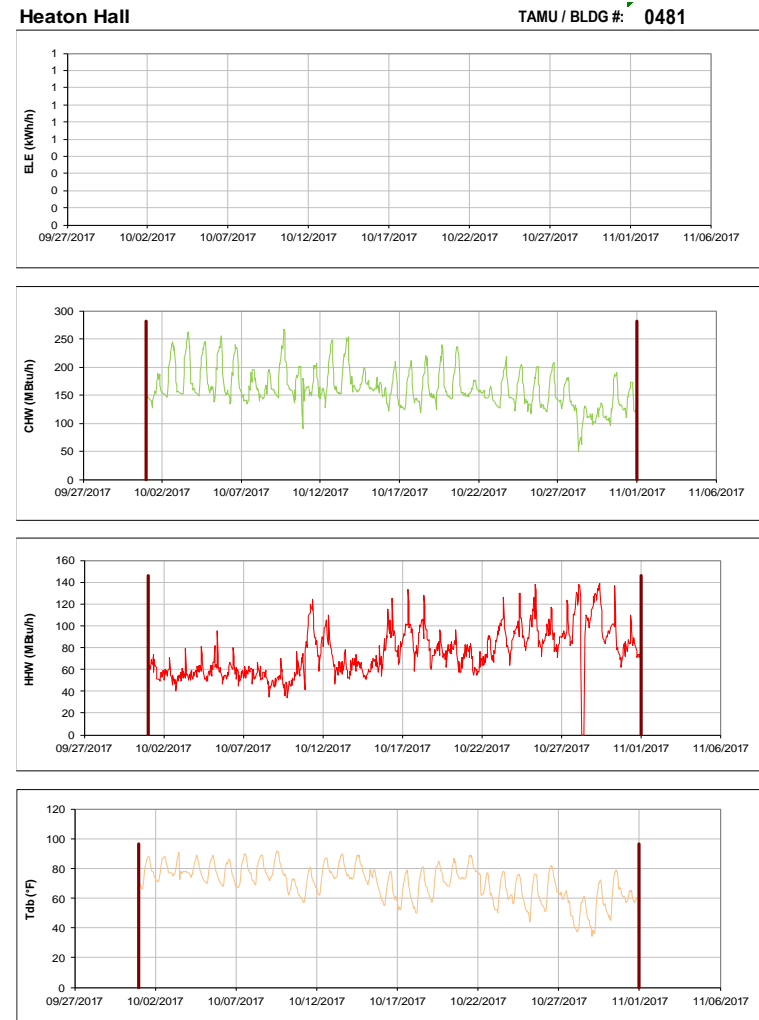


Figure III-92 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heaton Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Fermier Hall

TAMU / BLDG #: 0482



Figure III-93 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fermier Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Thompson Hall

TAMU / BLDG #: 0483

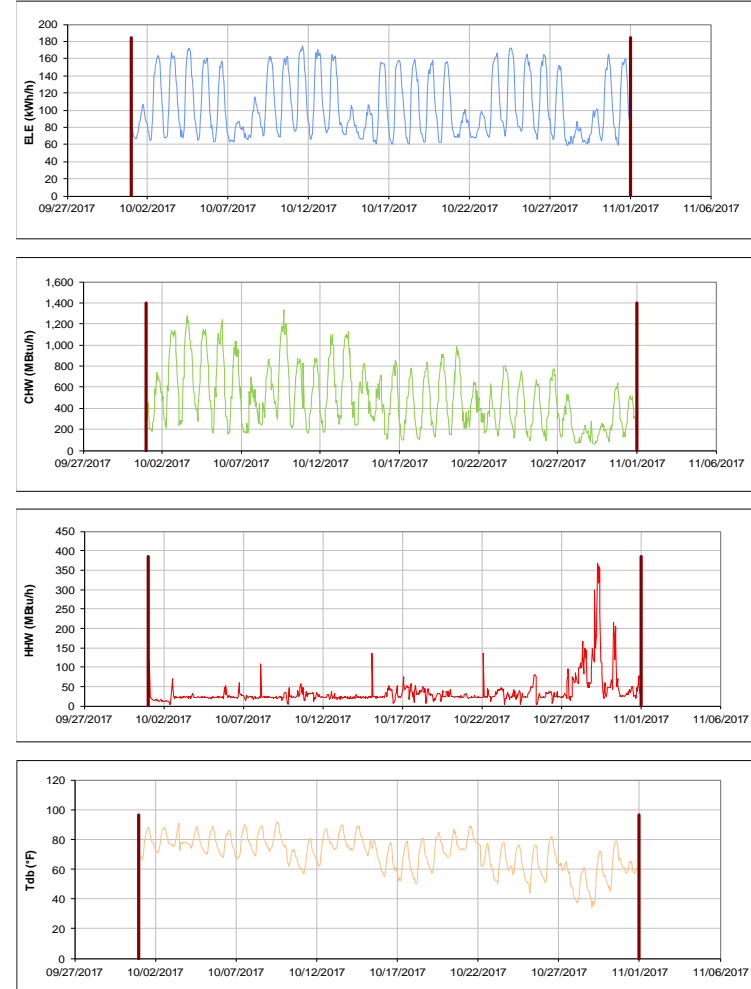


Figure III-94 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Thompson Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Chemistry Building**

TAMU / BLDG #: 0484

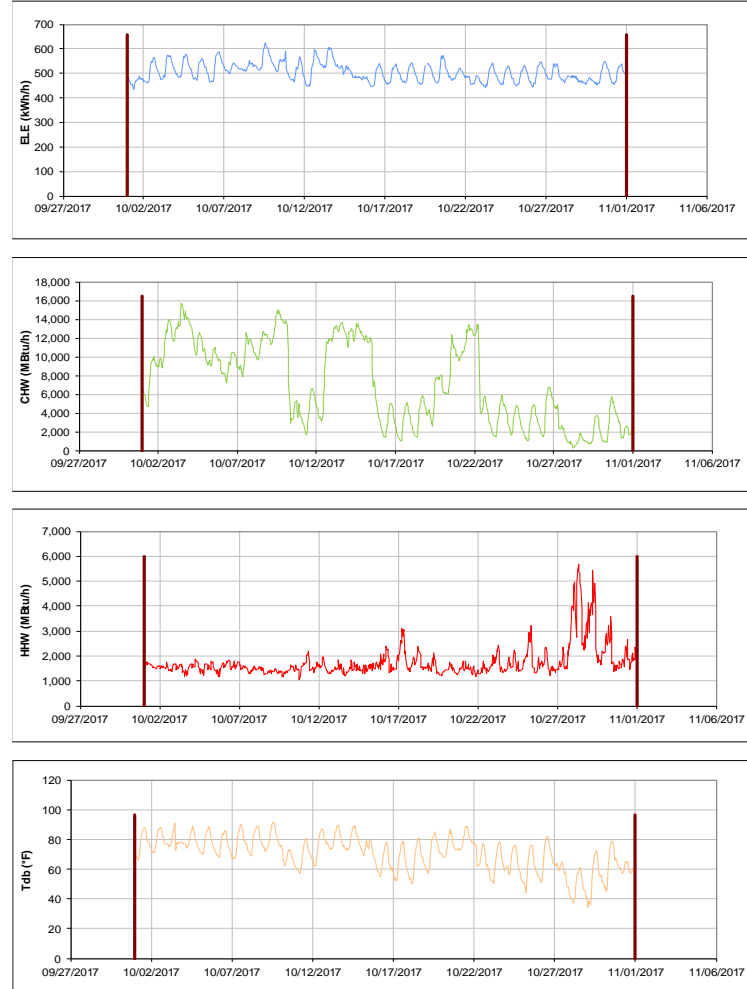


Figure III-95 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Halbouty Geosciences Building**

TAMU / BLDG #: 0490



Figure III-96 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Halbouty Geosciences Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Civil Engineering Building**

TAMU / BLDG #: 0492

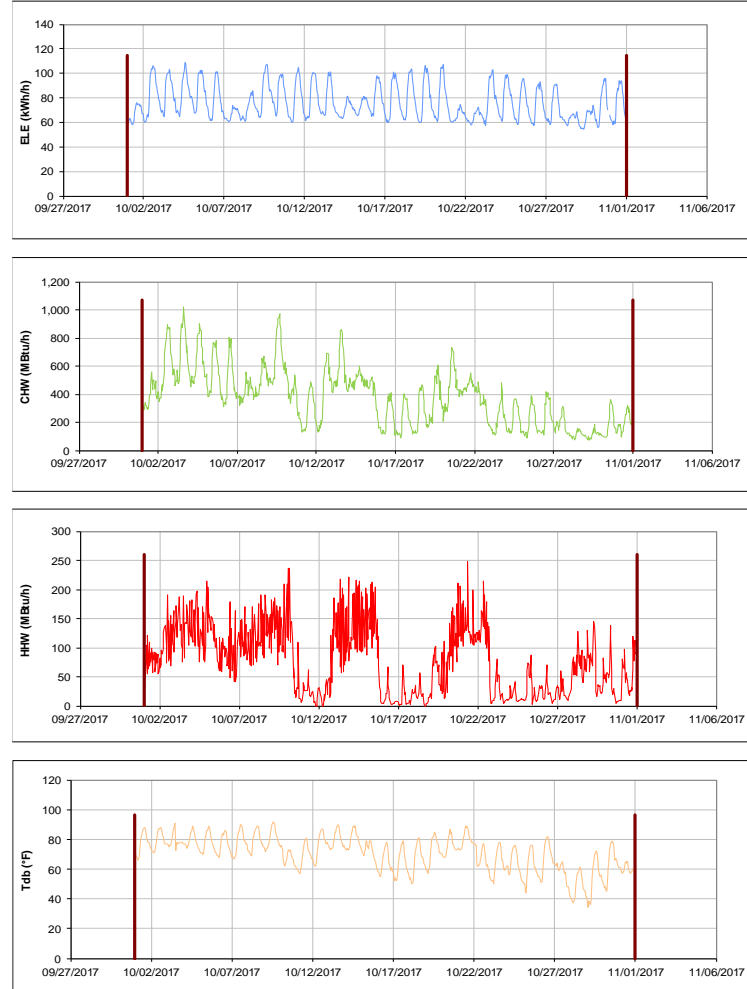


Figure III-97 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Civil Engineering Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Sbisa Dining Hall**

TAMU / BLDG #: 0495



Figure III-98 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sbisa Dining Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

# Utilities & Energy Services Central Office

TAMU / BLDG #: 0496

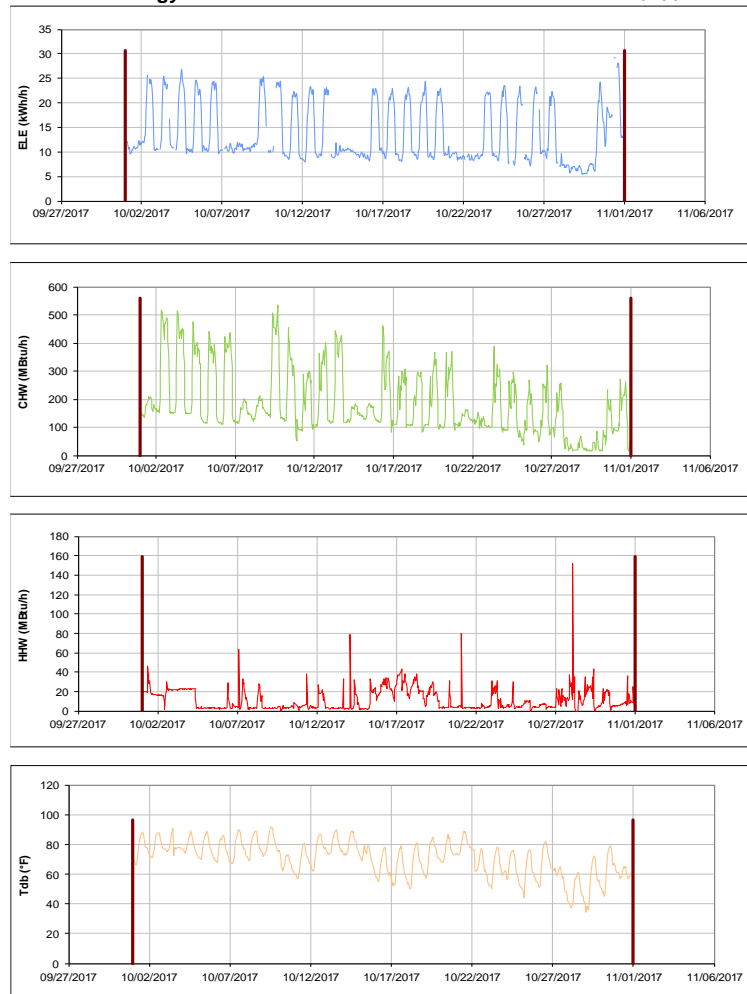


Figure III-99 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Central Office during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

# Engineering Innovation Center

TAMU / BLDG #: 0499

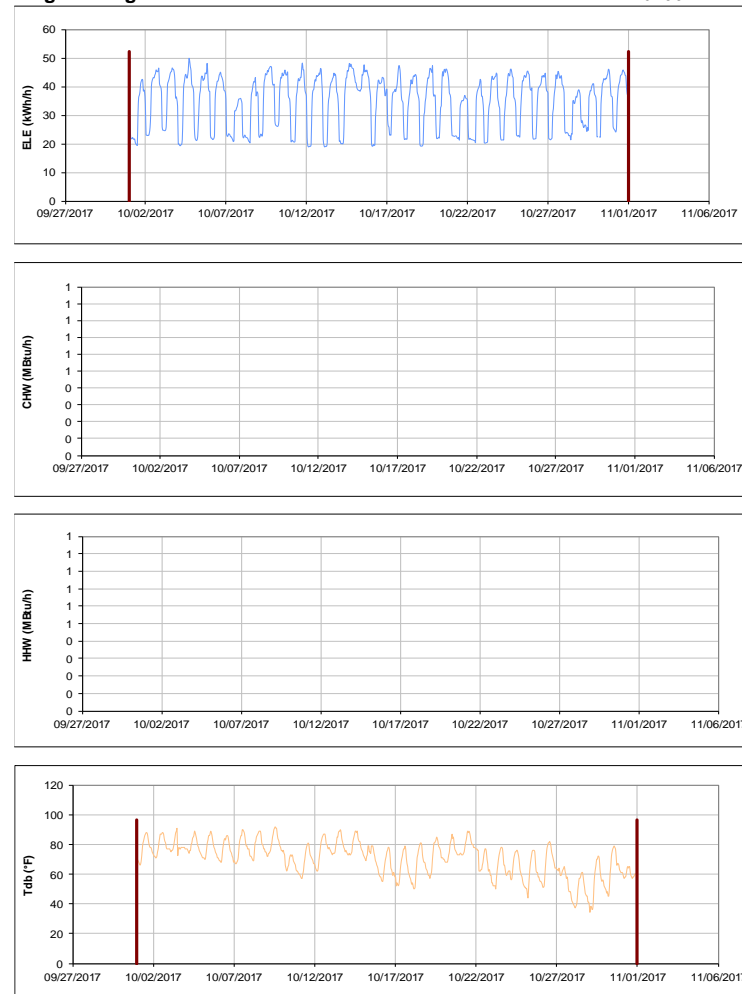


Figure III-100 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Innovation Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Concrete Materials Laboratory

TAMU / BLDG #: 0501

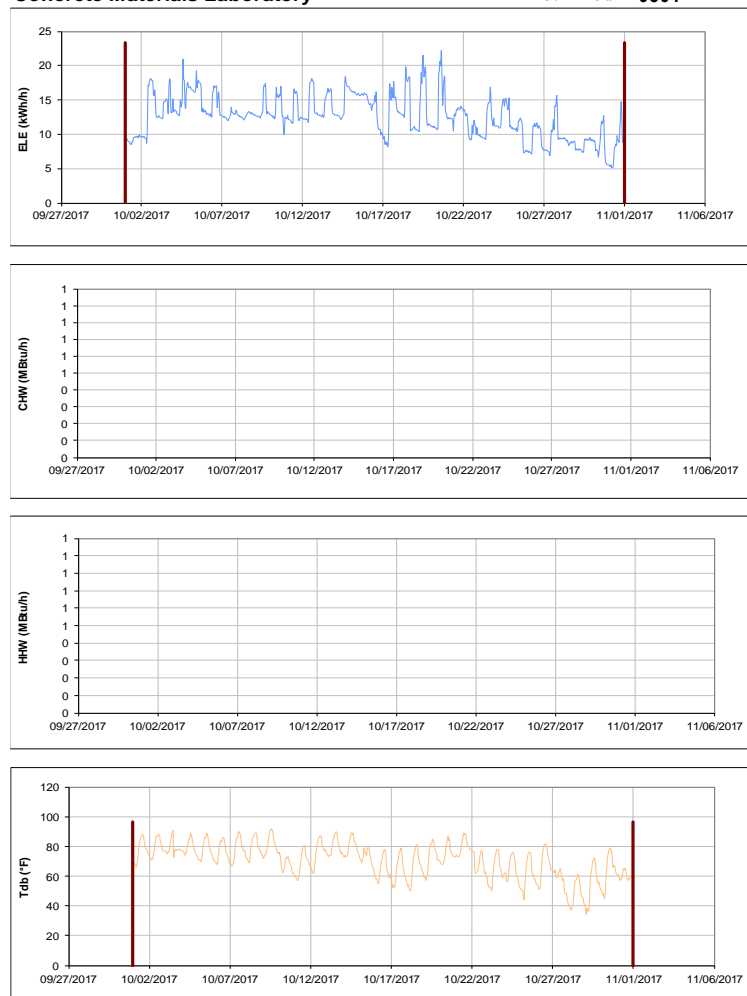


Figure III-101 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Concrete Materials Laboratory during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Nagle Hall

TAMU / BLDG #: 0506



Figure III-102 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nagle Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Veterinary Medical Science Building**

TAMU / BLDG #: 0507

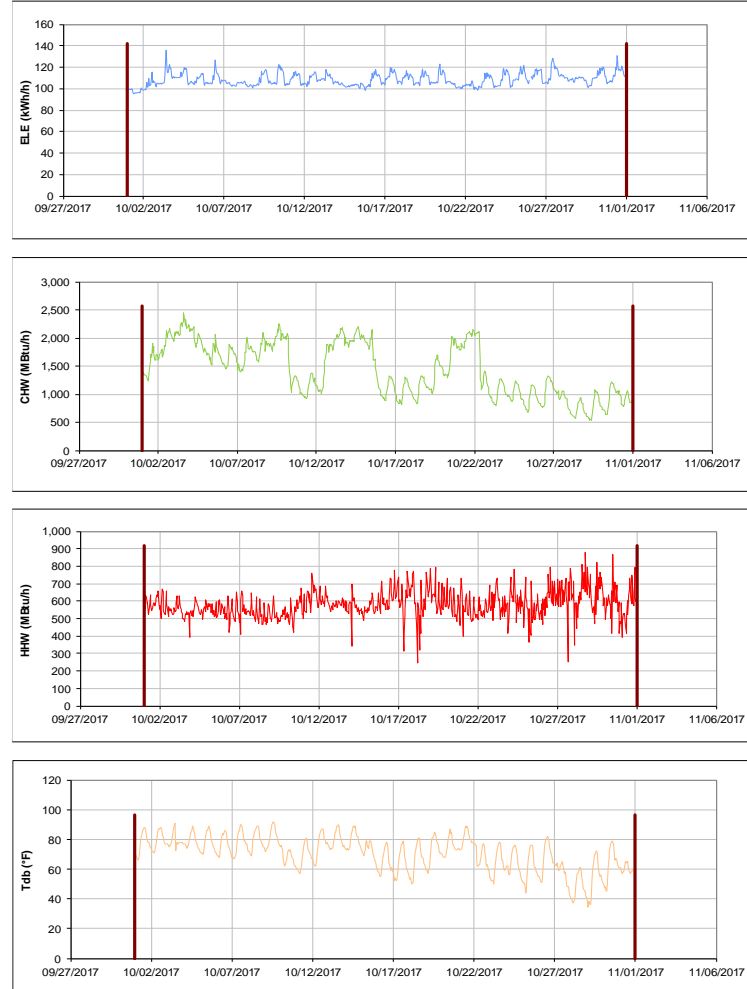


Figure III-103 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medical Science Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Veterinary Teaching Hospital**

TAMU / BLDG #: 0508

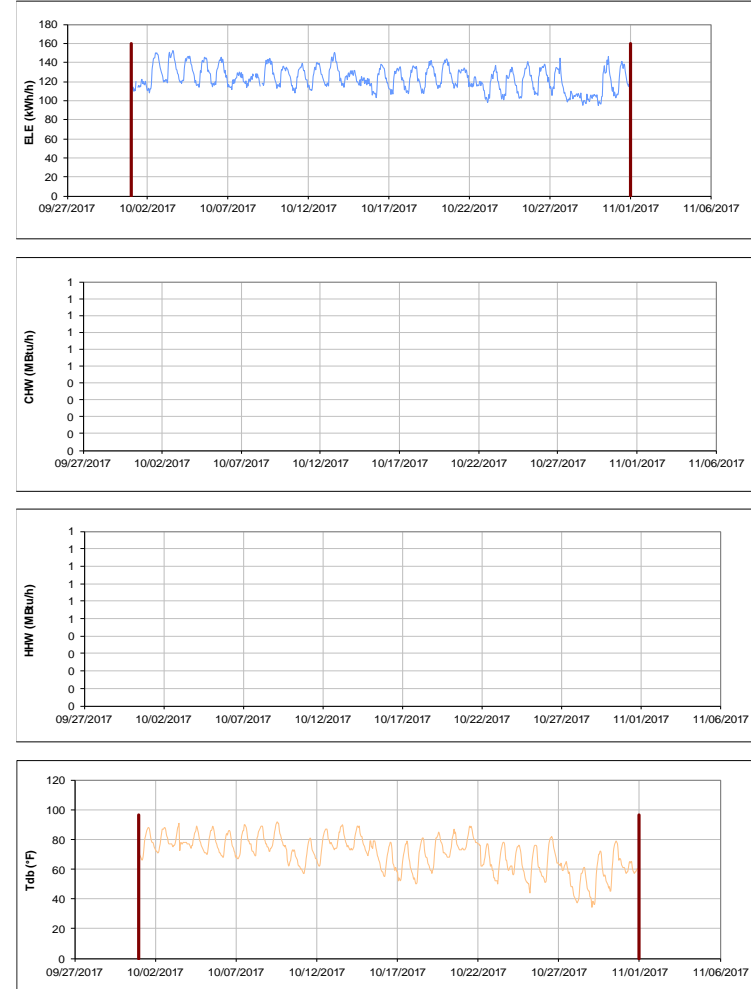


Figure III-104 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



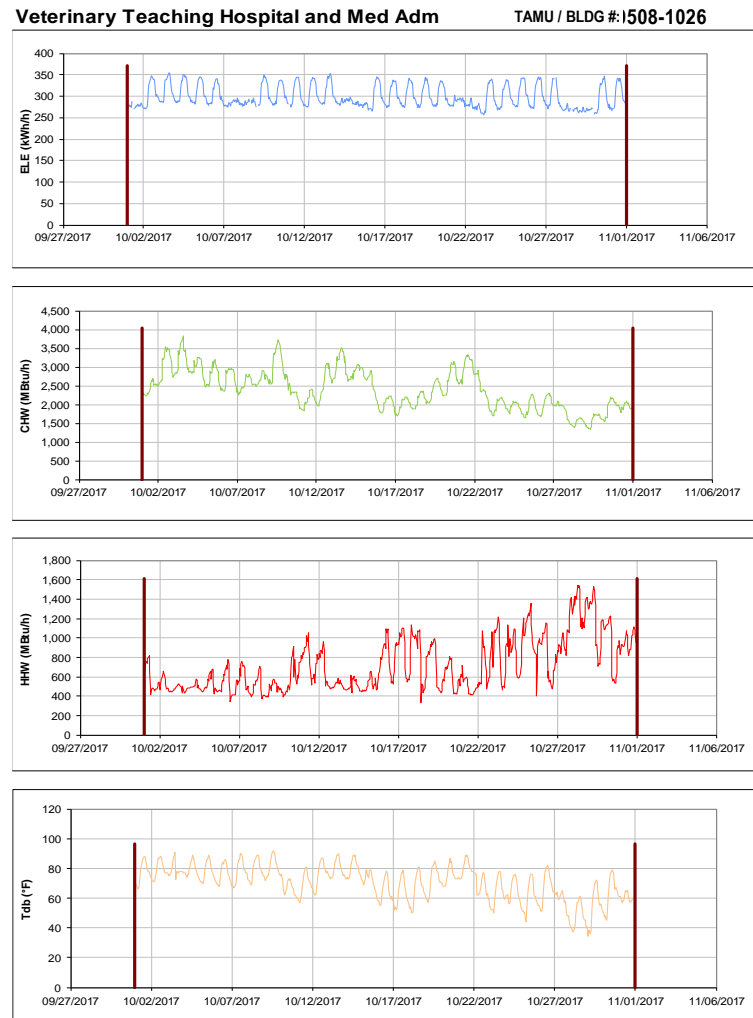


Figure III-105 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital and Med Adm during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

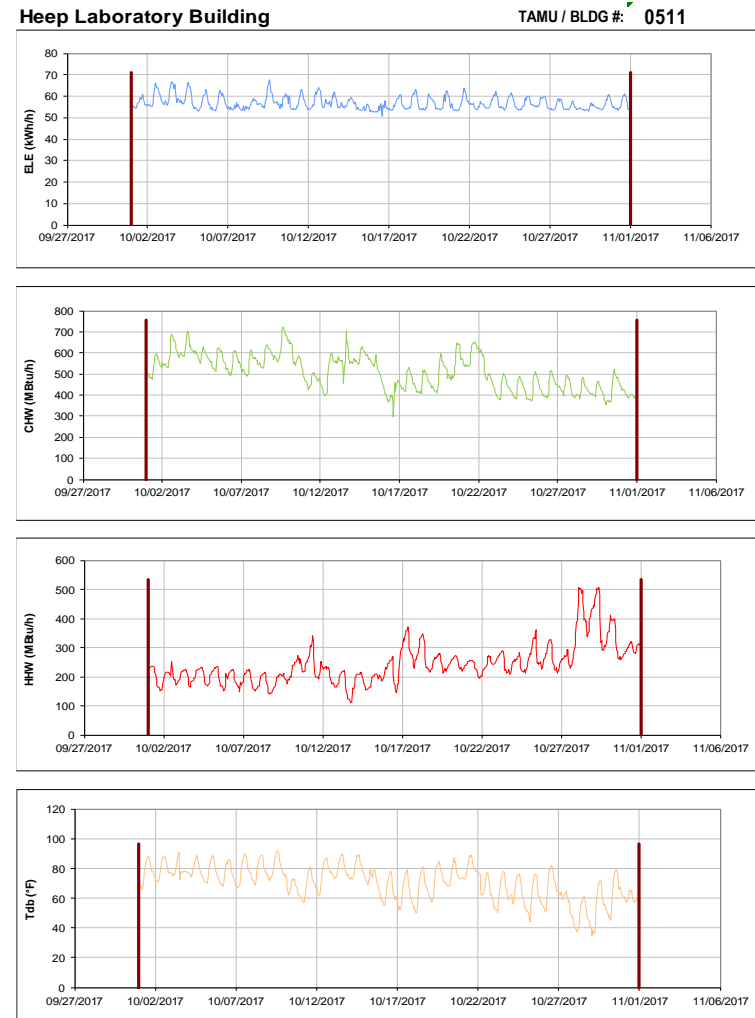


Figure III-106 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Laboratory Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

All Faiths Chapel

TAMU / BLDG #: 0512

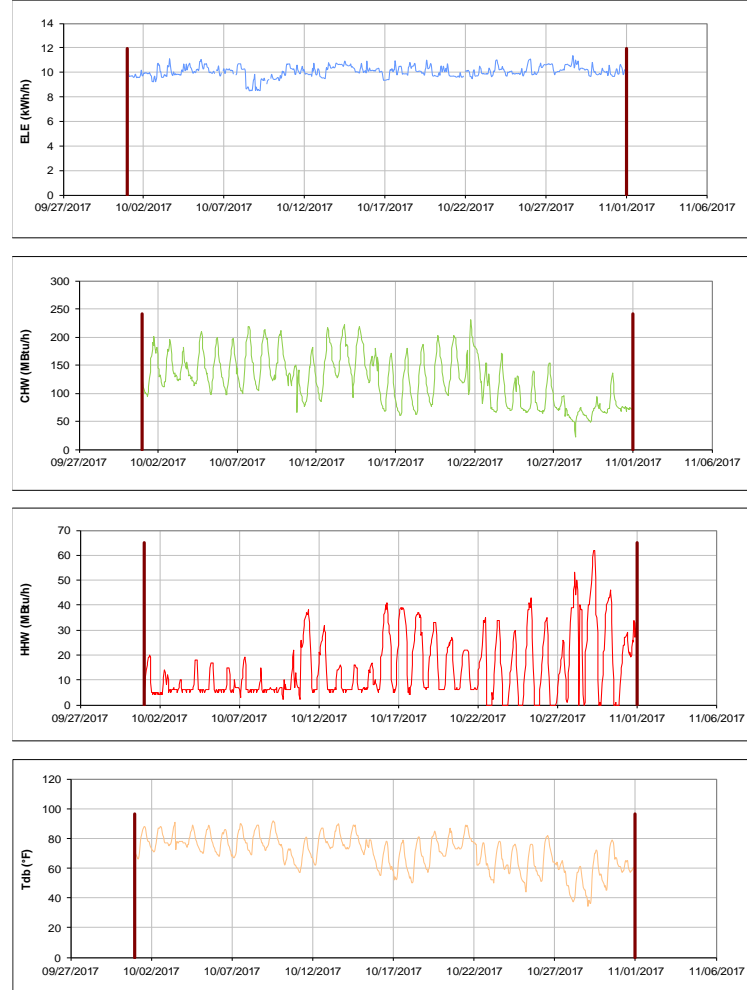


Figure III-107 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for All Faiths Chapel during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Doherty Building

TAMU / BLDG #: 0513

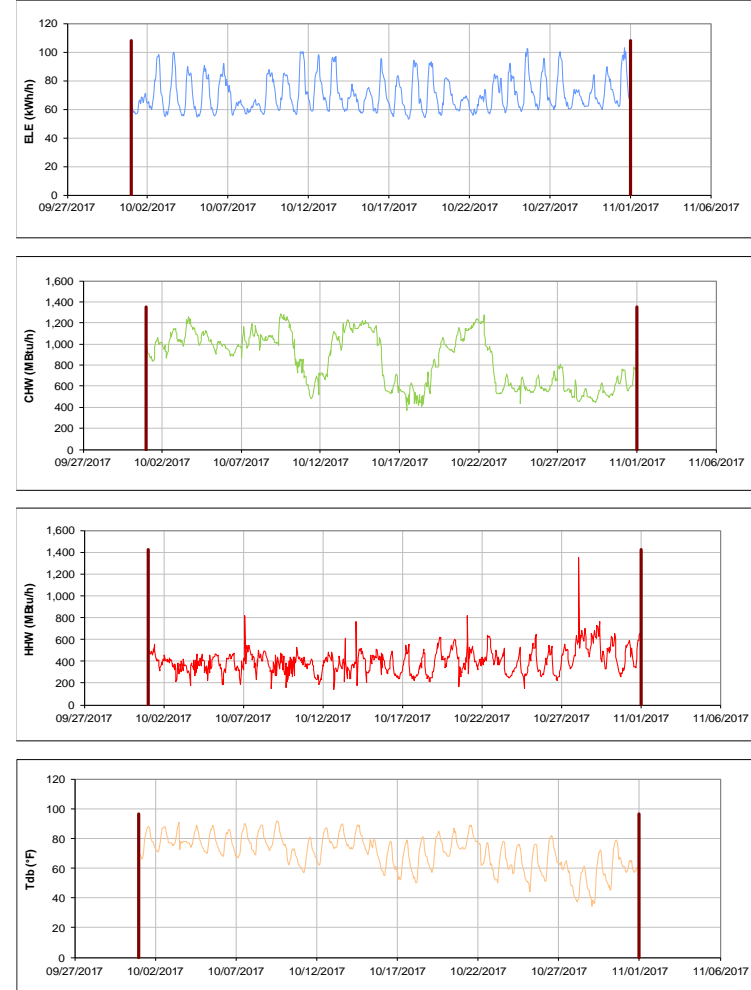


Figure III-108 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Doherty Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Munnerlyn Astronomy & Space Sciences Engineering** TAMU / BLDG #: 0514

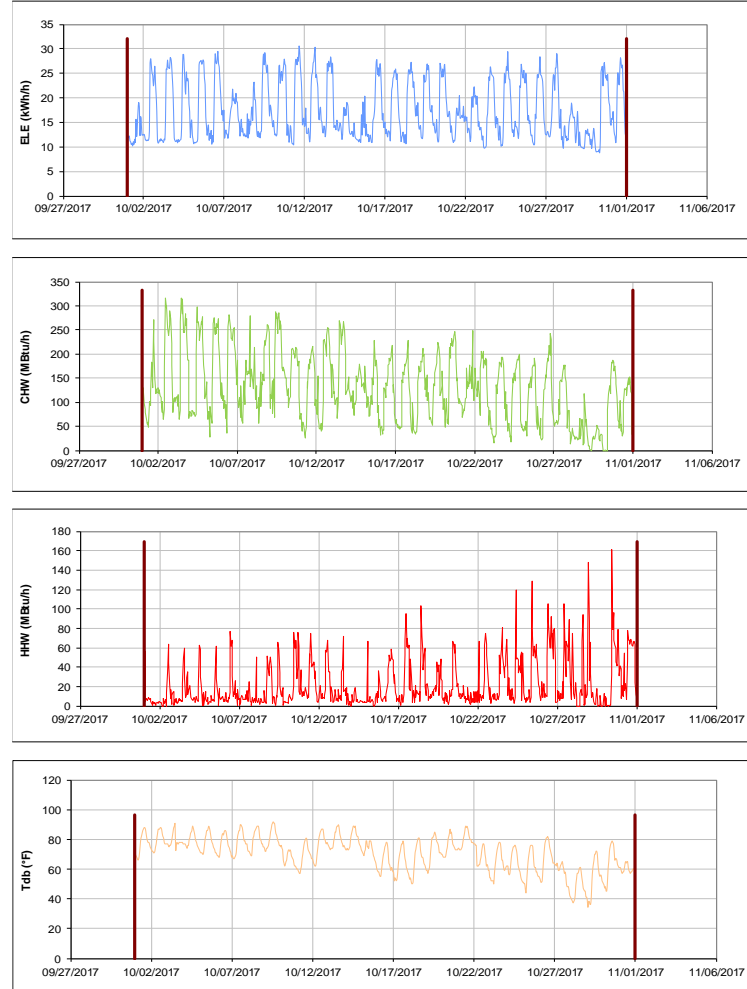


Figure III-109 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Munnerlyn Astronomy & Space Sciences Engineering during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Computing Services Center**

TAMU / BLDG #: 0516



Figure III-110 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Computing Services Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

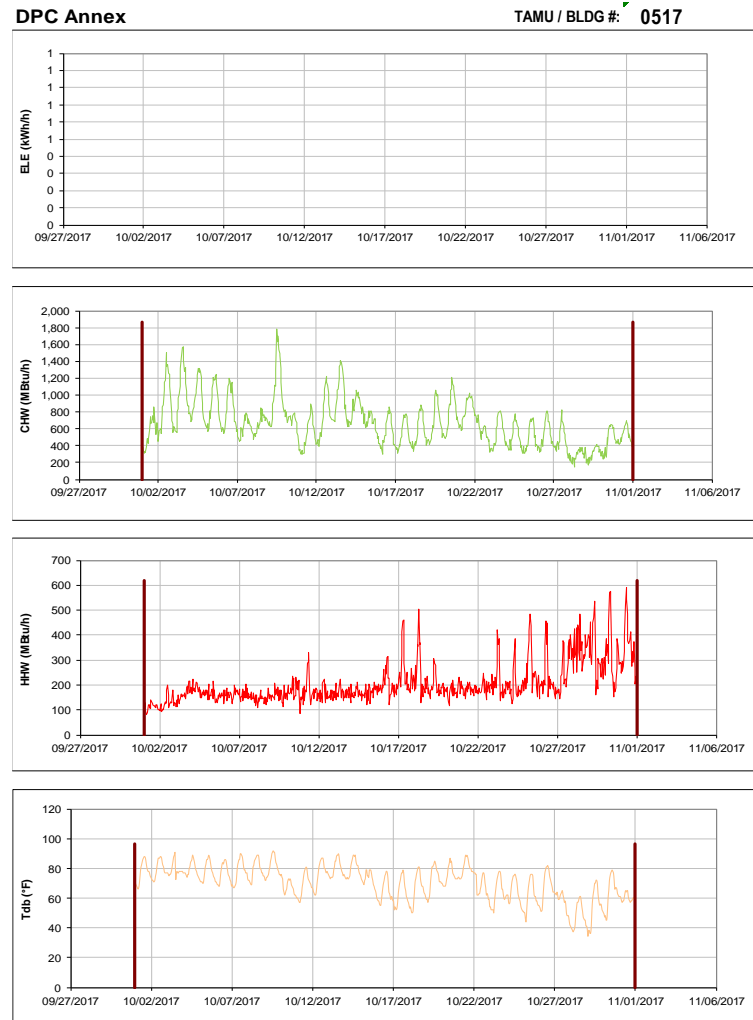


Figure III-111 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for DPC Annex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

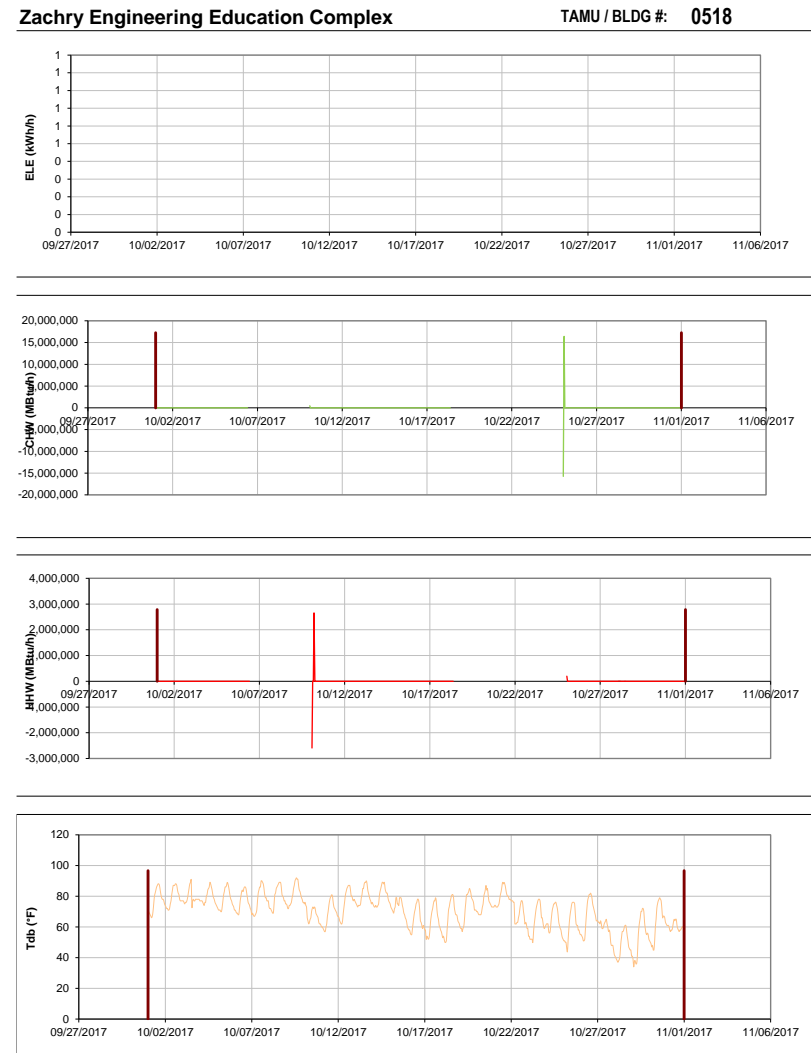


Figure III-112 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Zachry Engineering Education Complex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

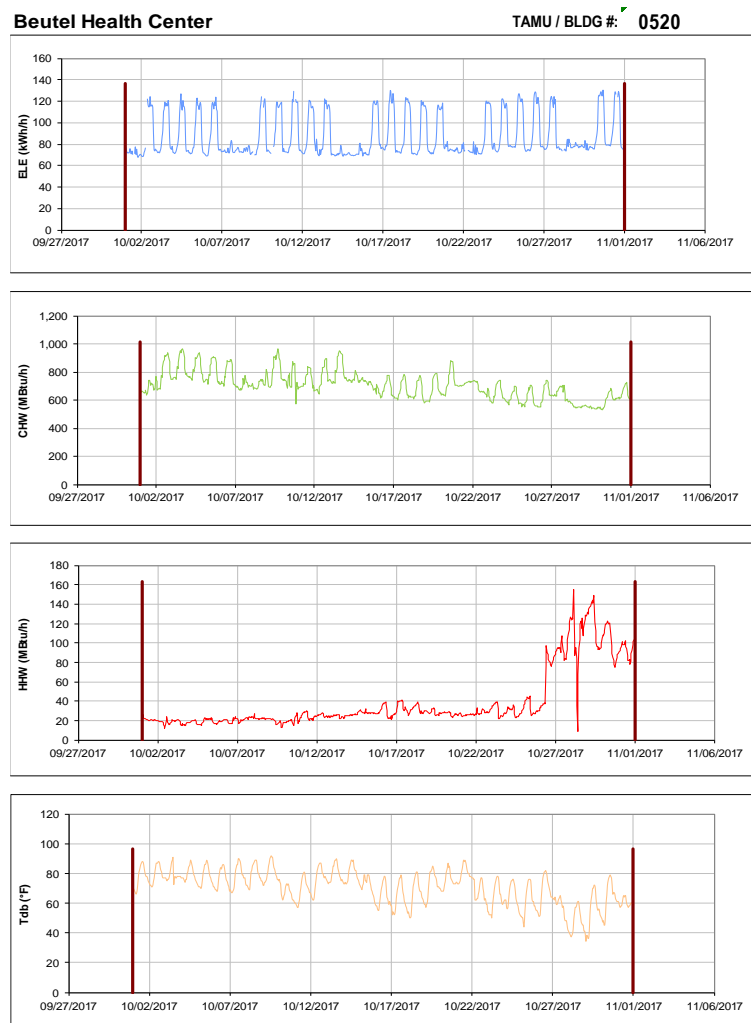


Figure III-113 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Beutel Health Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

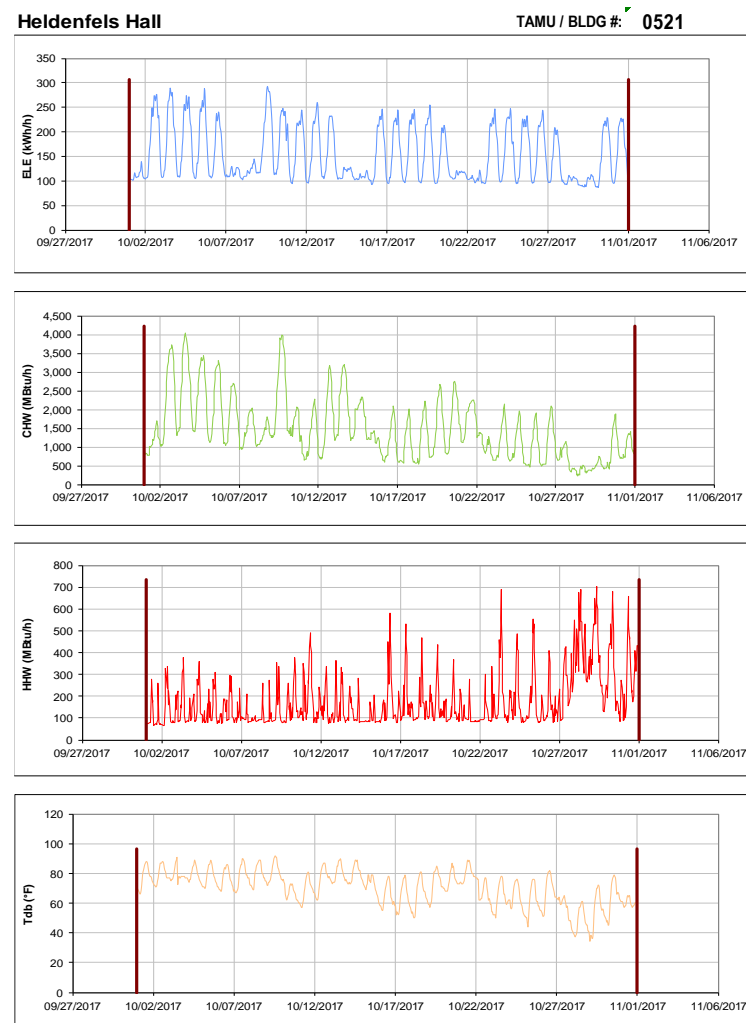


Figure III-114 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heldenfels Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

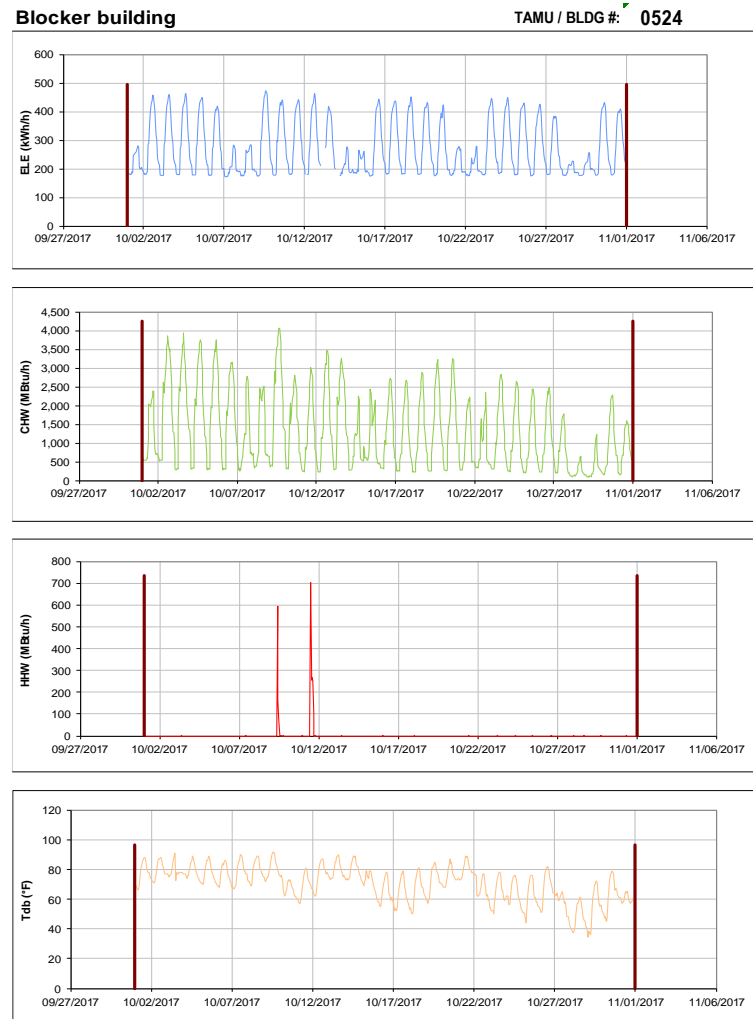


Figure III-115 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Blocker building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

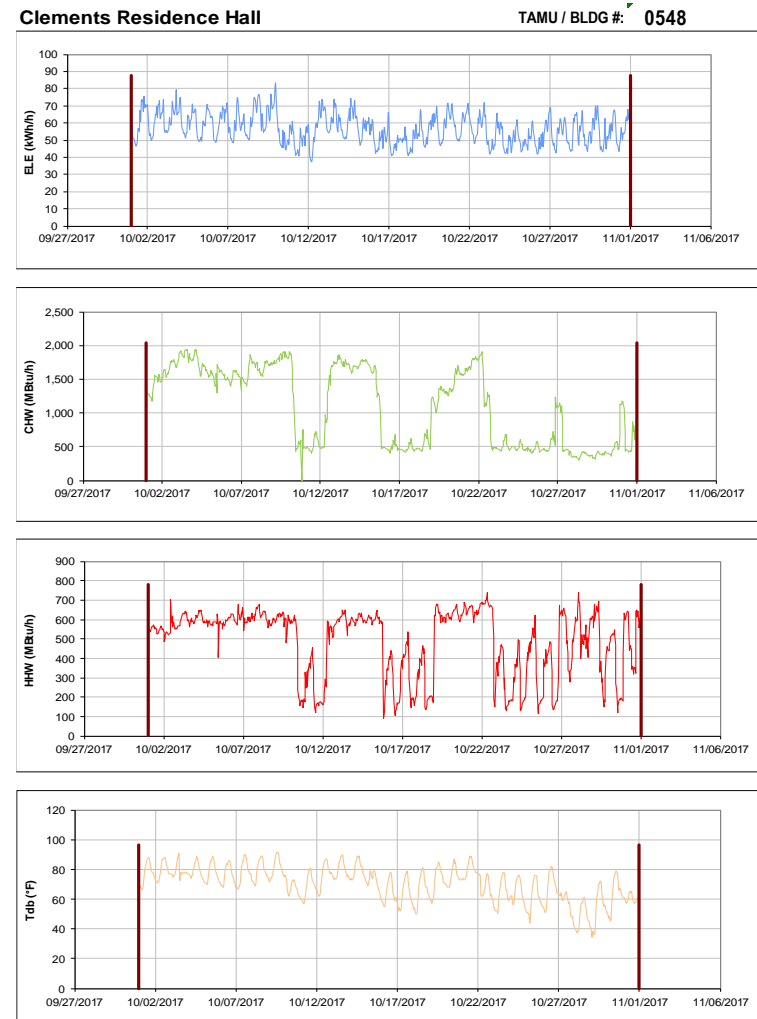


Figure III-116 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Clements Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

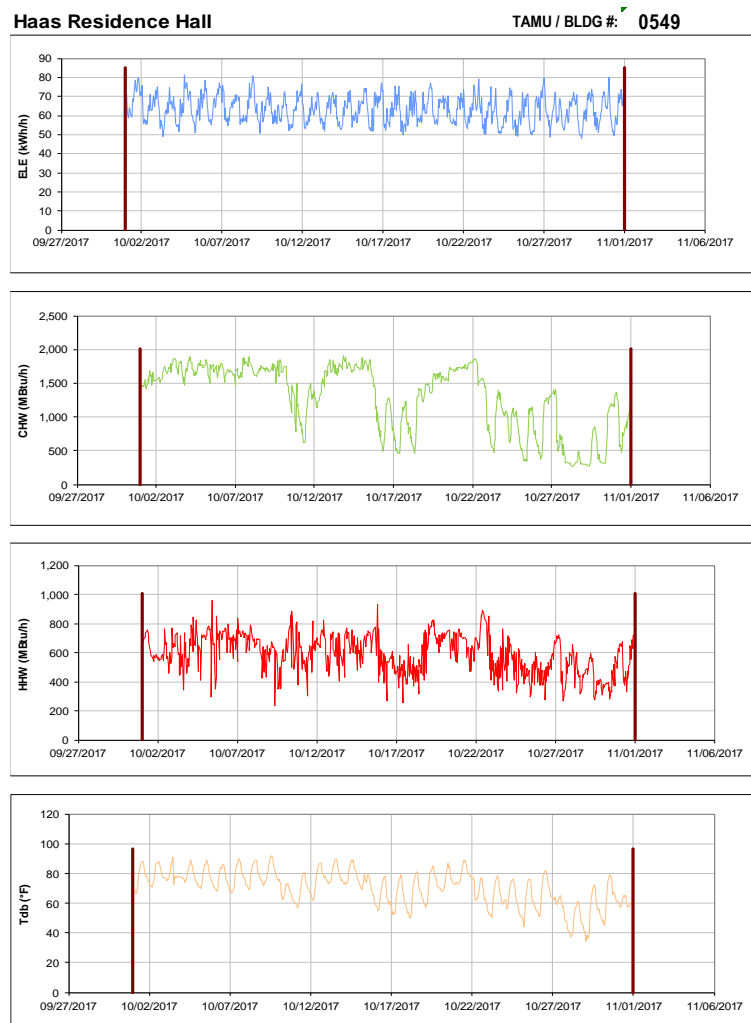


Figure III-117 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Haas Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

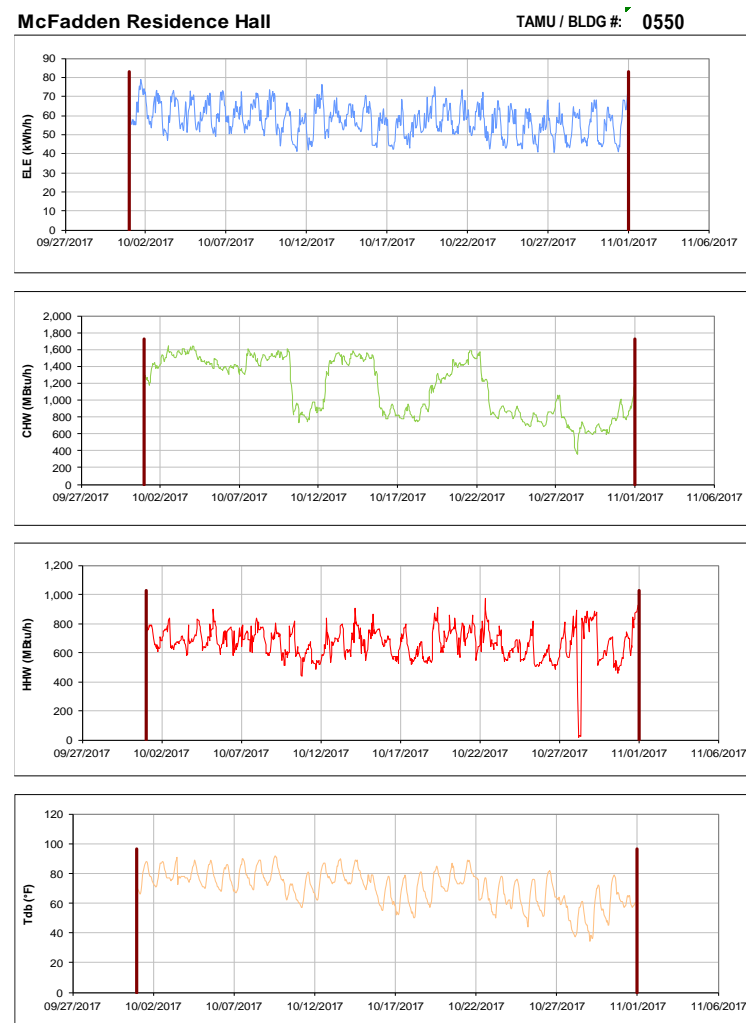


Figure III-118 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McFadden Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Neeley Residence Hall

TAMU / BLDG #: 0652

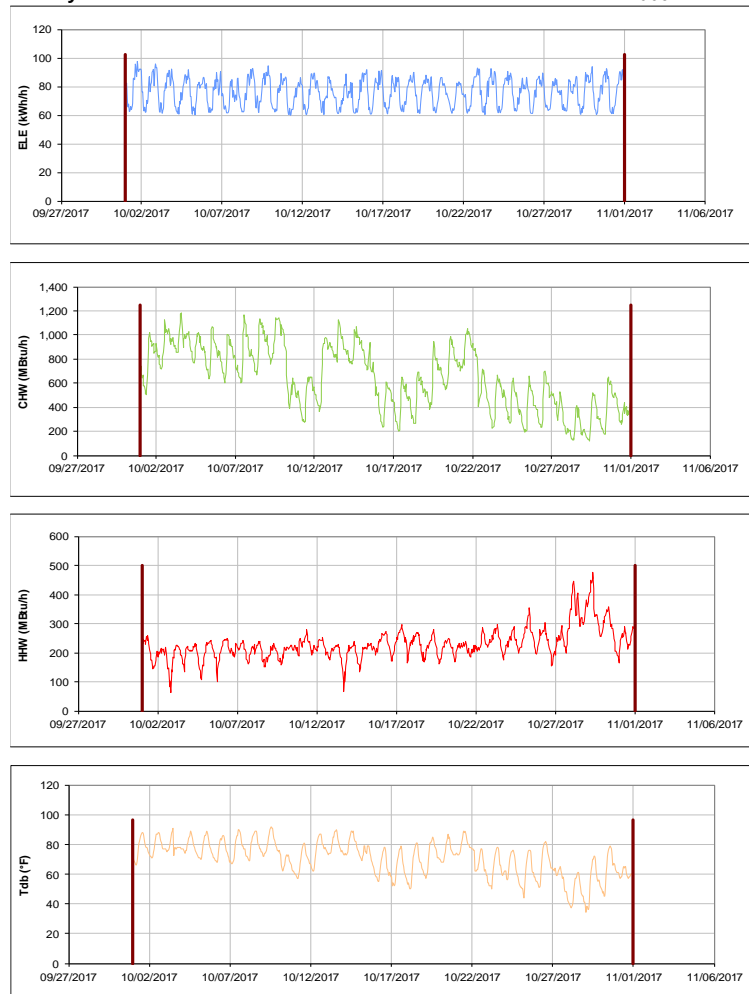


Figure III-119 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Neeley Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Hobby Residence Hall

TAMU / BLDG #: 0653



Figure III-120 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hobby Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Wisembaker Engineering Research Center

TAMU / BLDG #: 0682

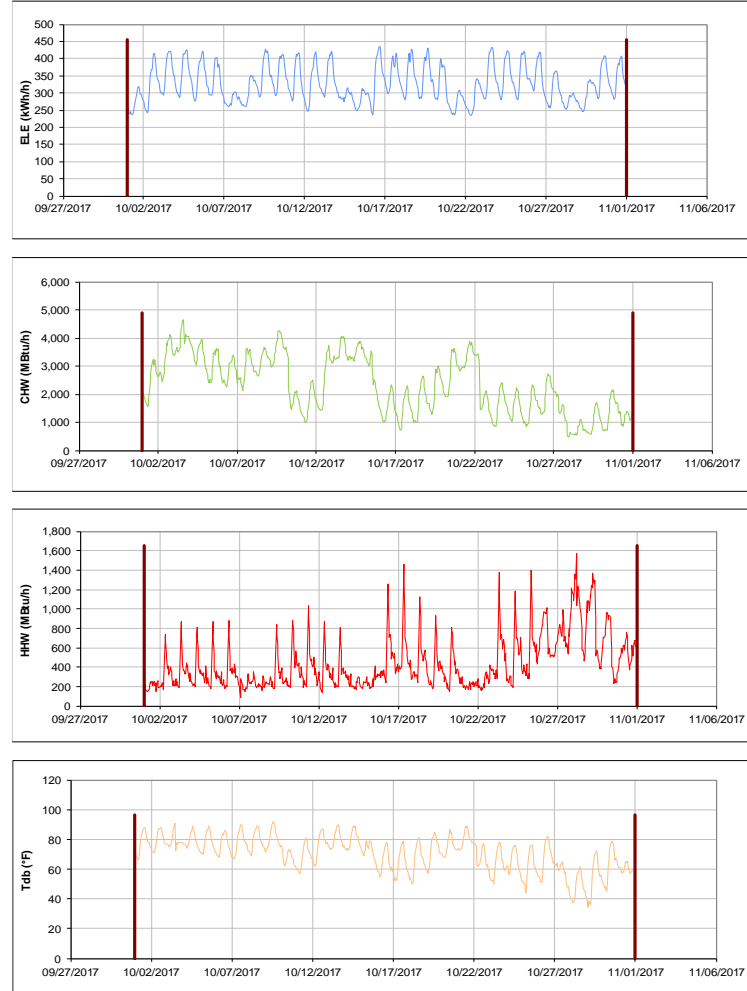


Figure III-121 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wisembaker Engineering Research Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

McNew Laboratory

TAMU / BLDG #: 0740

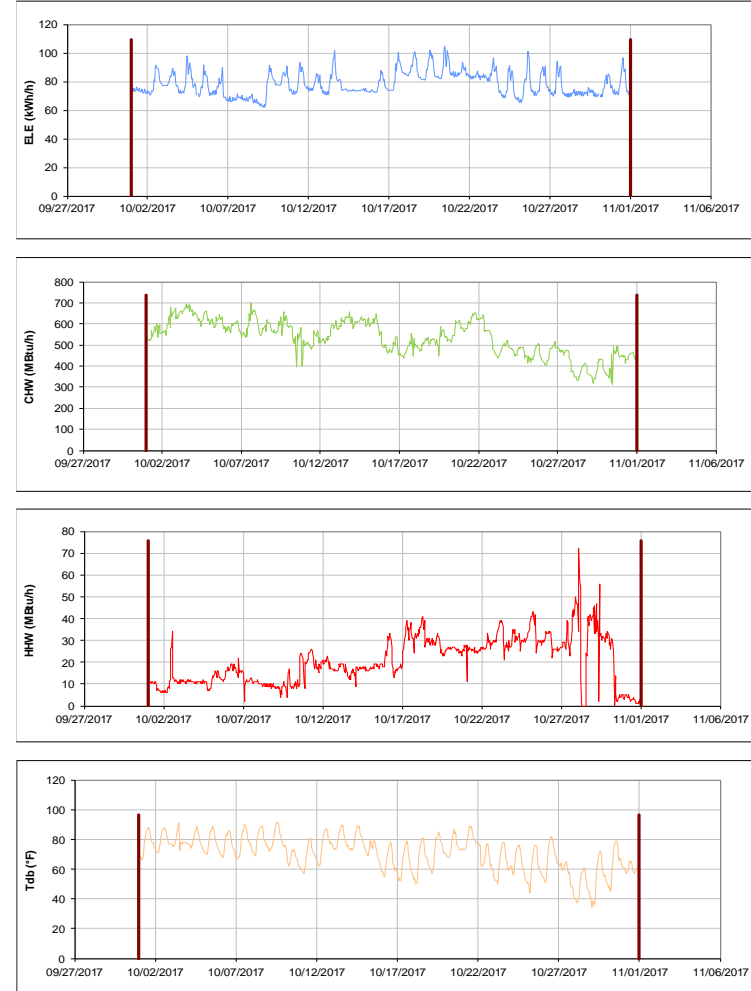


Figure III-122 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McNew Laboratory during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

### Soil Testing Labs

TAMU / BLDG #: 0806

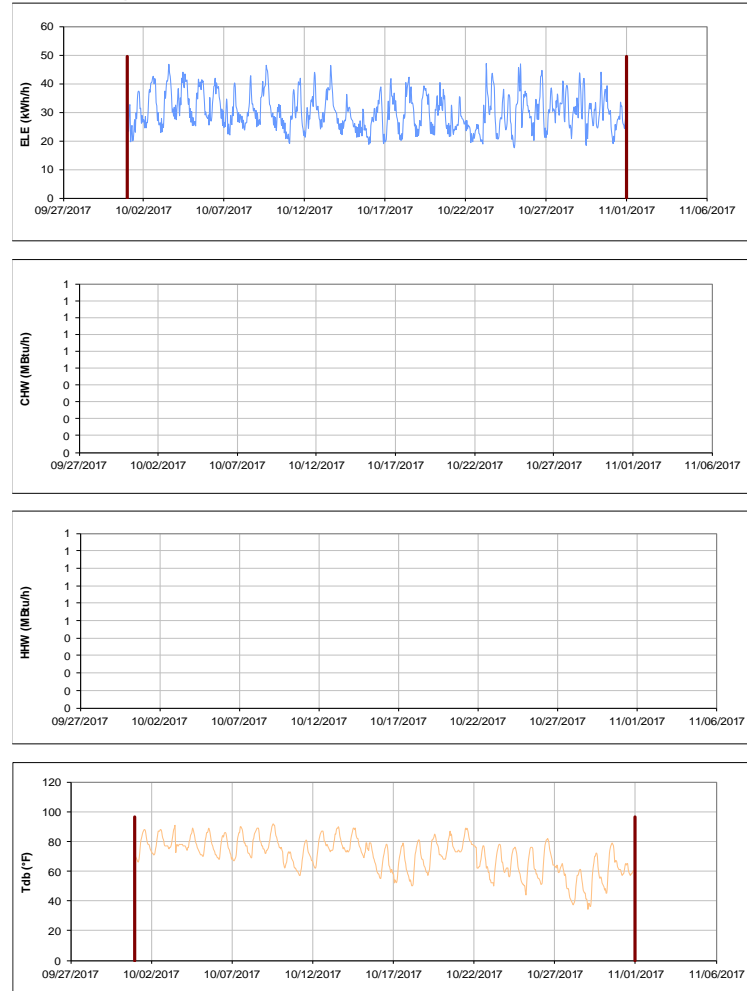


Figure III-123 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Soil Testing Labs during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

### Entomology Research Lab

TAMU / BLDG #: 0815



Figure III-124 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Entomology Research Lab during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**TVMC-Small Animal Building**

TAMU / BLDG #: 0880



Figure III-125 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TVMC-Small Animal Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Dollar Data Center**

TAMU / BLDG #: 0971

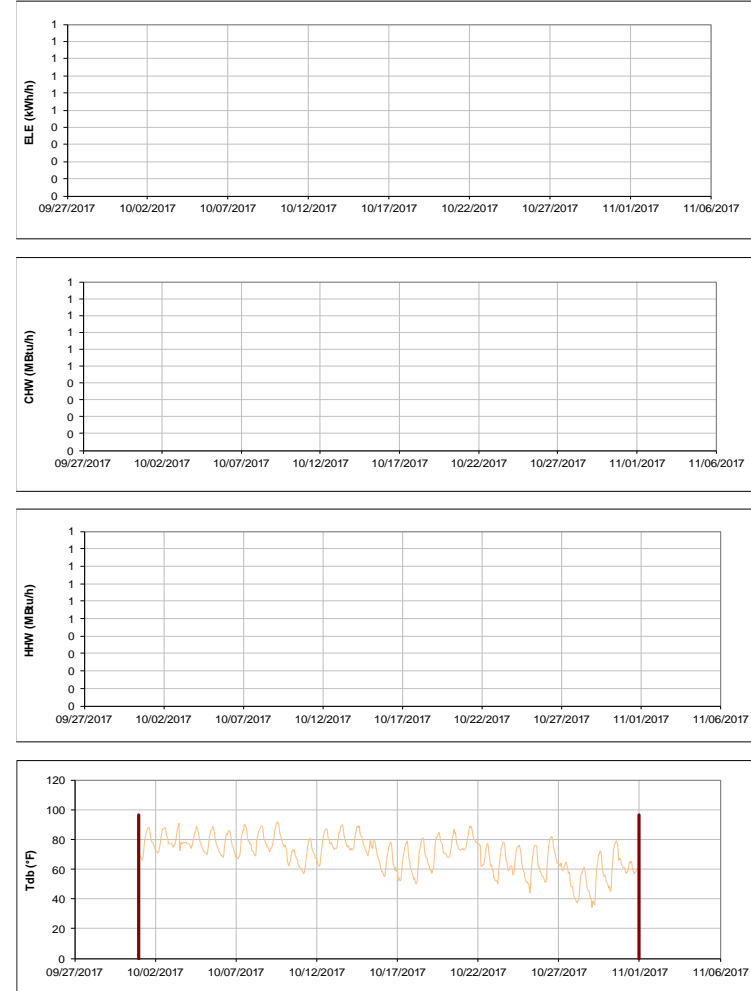


Figure III-126 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dollar Data Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Laboratory Animal Care Building

TAMU / BLDG #: 0972

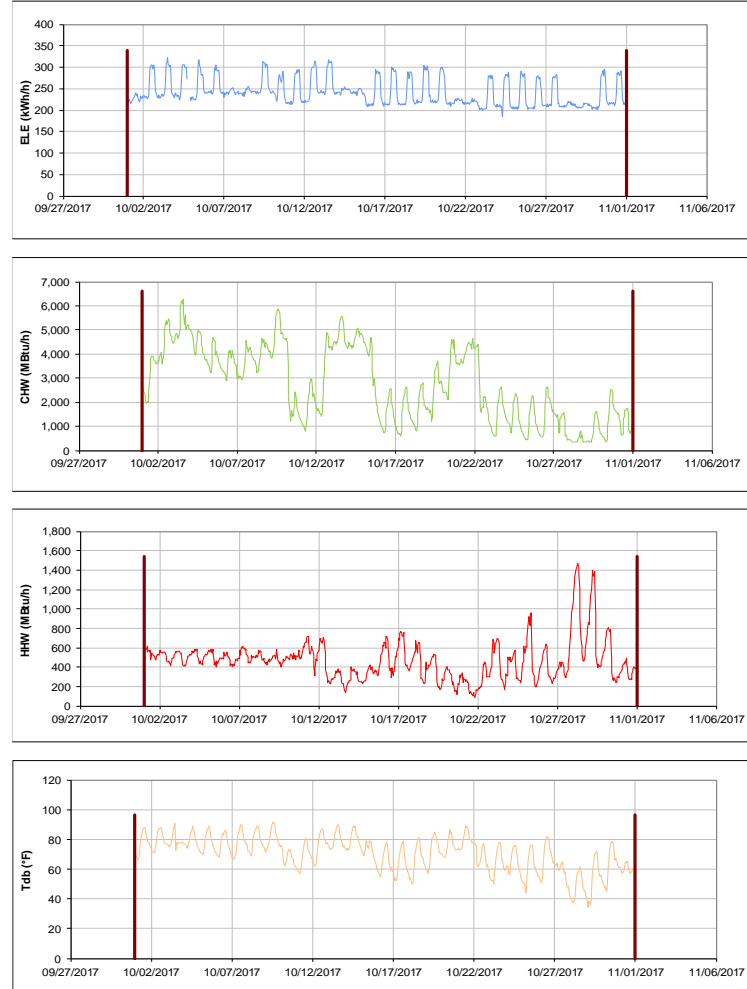


Figure III-127 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Laboratory Animal Care Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Vivarium III

TAMU / BLDG #: 1020

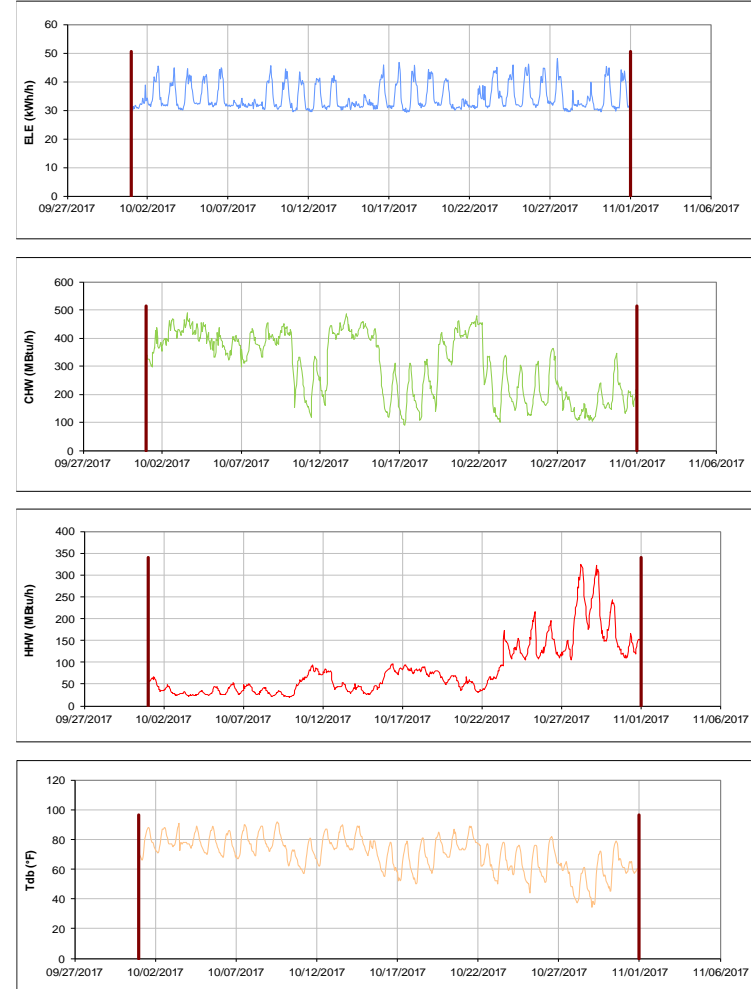


Figure III-128 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vivarium III during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

# Veterinary Medicine Administration

TAMU / BLDG #: 1026



Figure III-129 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Administration during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

# Texas Vet Med Diagnostic Lab

TAMU / BLDG #: 1041

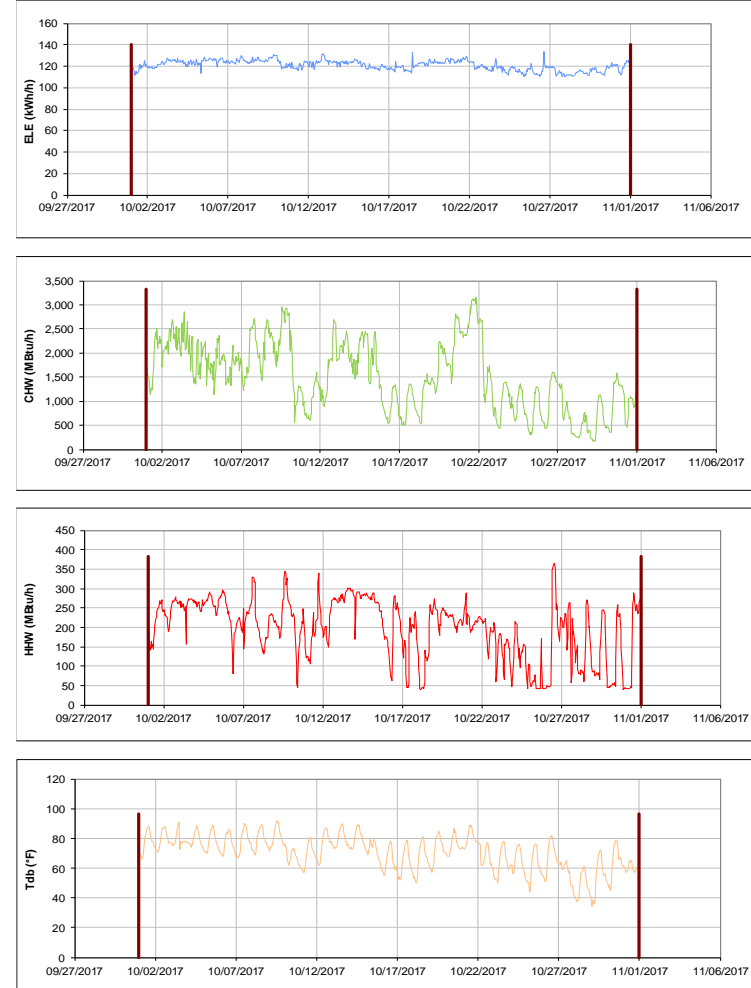


Figure III-130 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Vet Med Diagnostic Lab during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Forest Science Laboratory Building**

TAMU / BLDG #: 1042

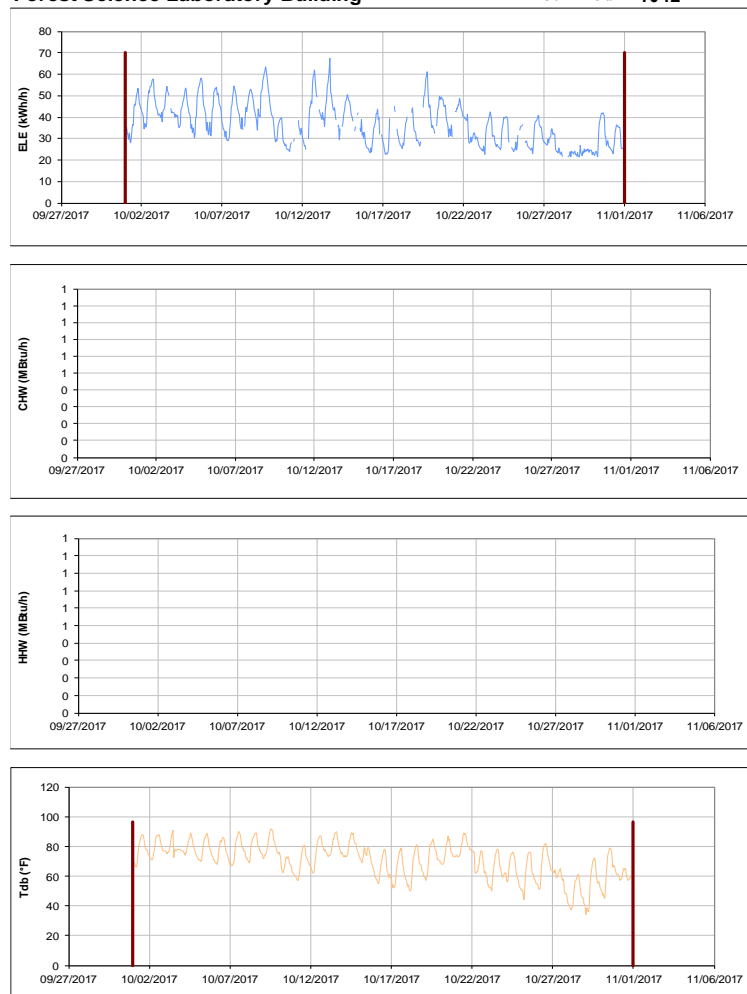


Figure III-131 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Forest Science Laboratory Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Veterinary Small Animal Hospital**

TAMU / BLDG #: 1085



Figure III-132 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Small Animal Hospital during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utilities Energy Office Annex

TAMU / BLDG #: 1089

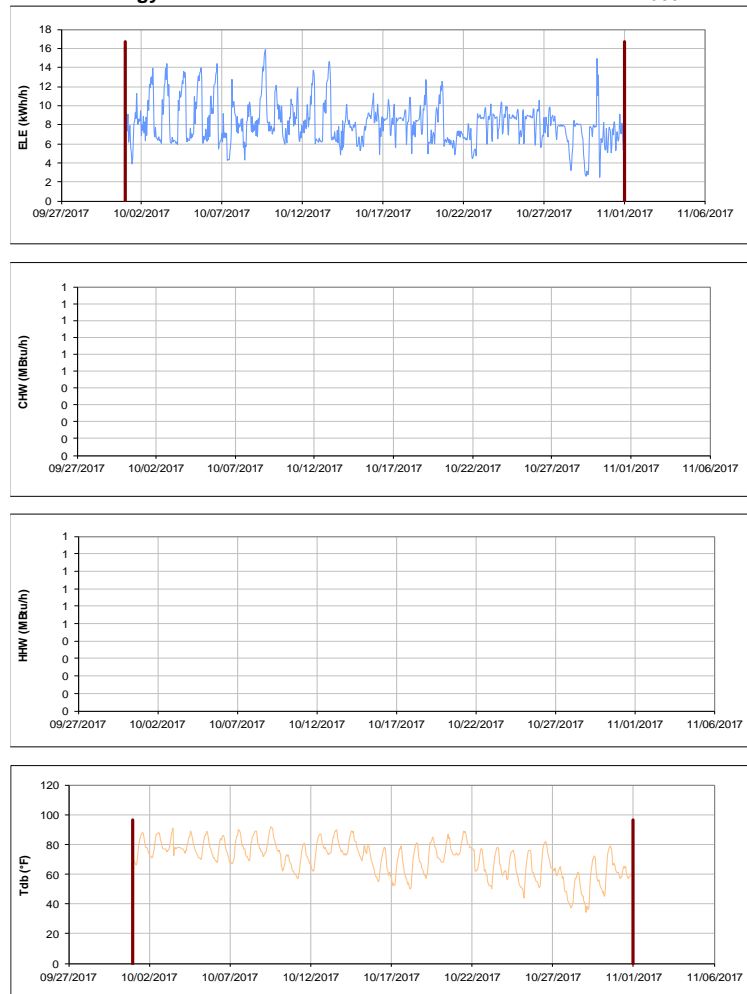


Figure III-133 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities Energy Office Annex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Biological Control Facility

TAMU / BLDG #: 1146



Figure III-134 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Control Facility during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Physical Plant Administration & Shops**

TAMU / BLDG #: 1156

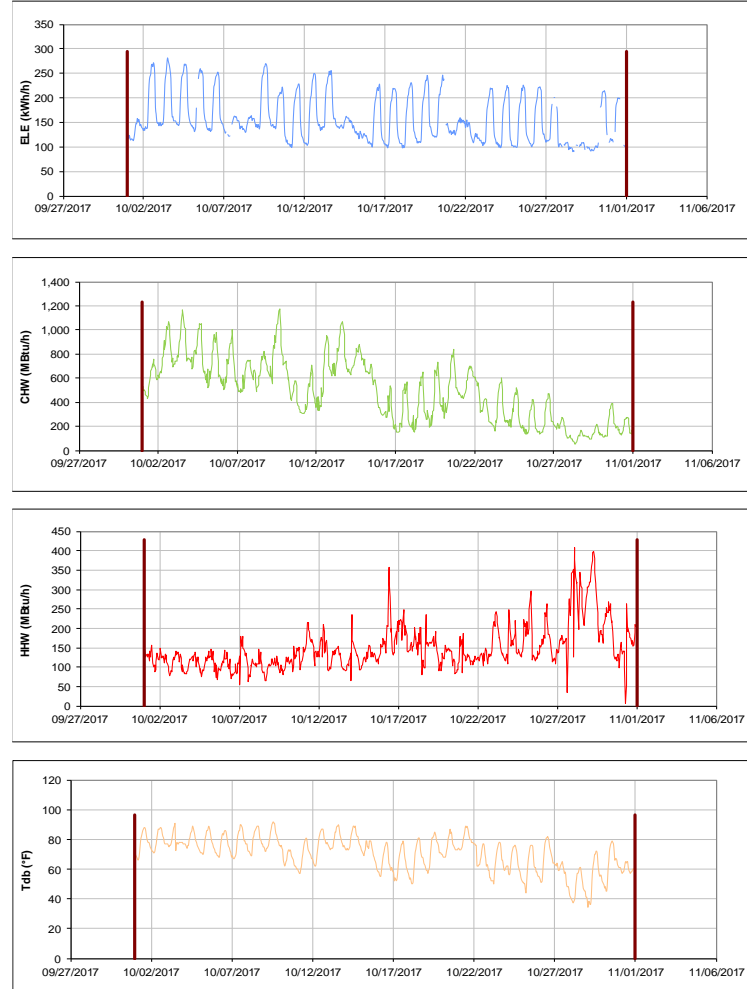


Figure III-135 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Plant Administration & Shops during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Veterinary Anatomic Pathology**

TAMU / BLDG #: 1184

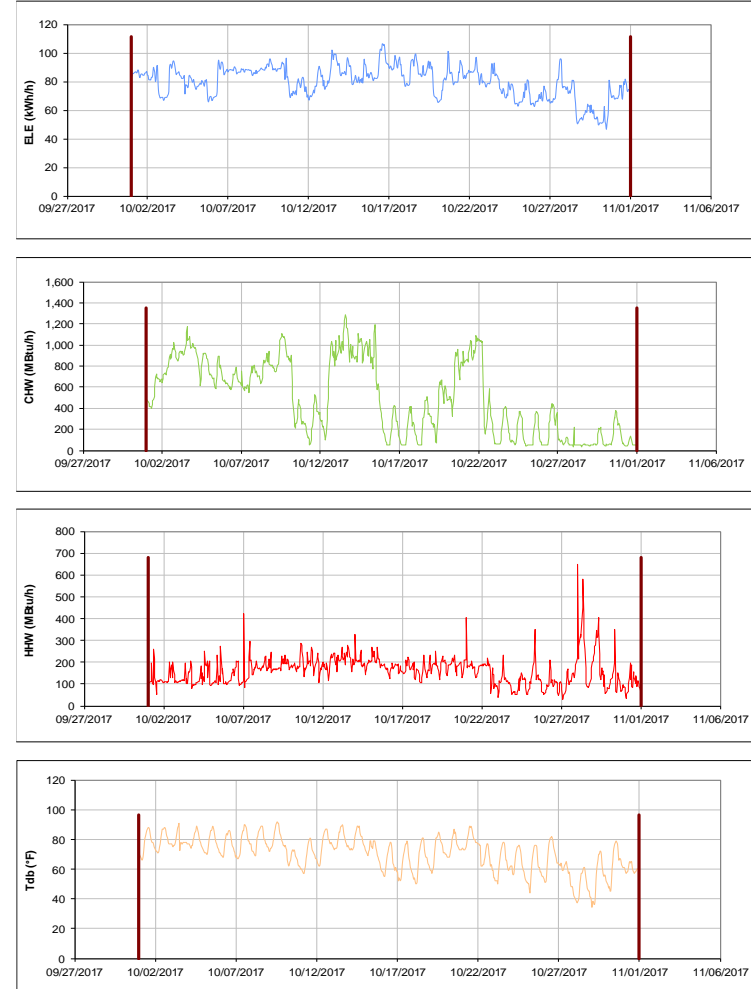


Figure III-136 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Anatomic Pathology during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



**Veterinary Large Animal Hospital**

TAMU / BLDG #: 1194



Figure III-137 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Large Animal Hospital during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Veterinary Research Building**

TAMU / BLDG #: 1197

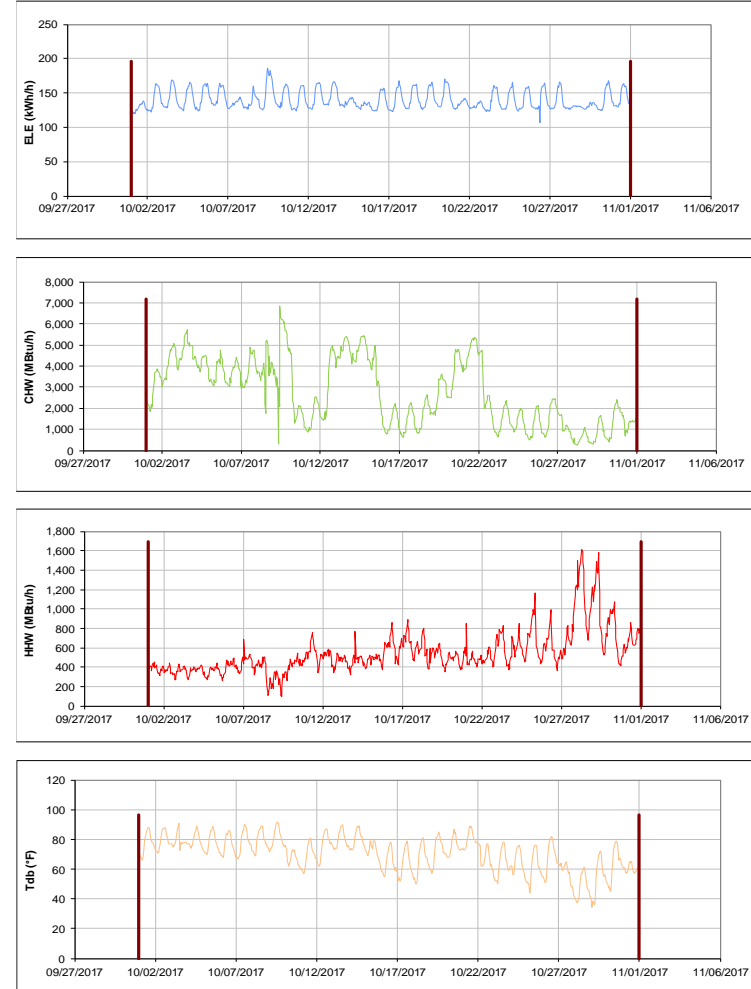


Figure III-138 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Research Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Buzbee Leadership Learning Center

TAMU / BLDG #: 1402



Figure III-139 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Buzbee Leadership Learning Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

H. Grady Ash, Jr. '58 Leadership Learning Center TAMU / BLDG #: 1403

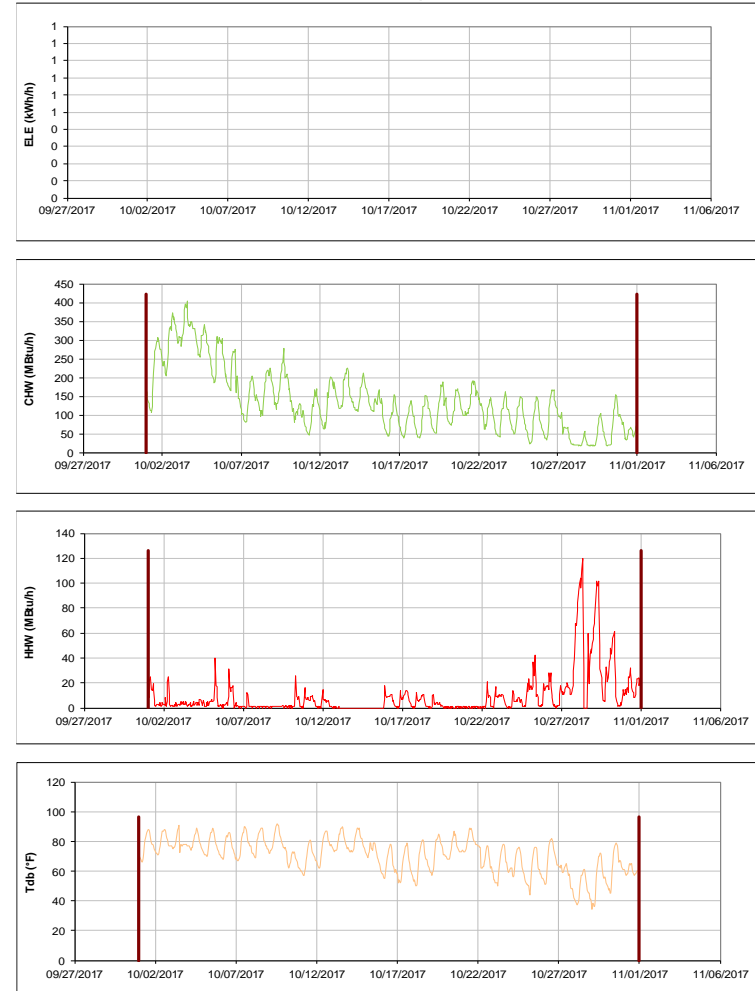


Figure III-140 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for H. Grady Ash, Jr. '58 Leadership Learning Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Plank LLC

TAMU / BLDG #: 1404

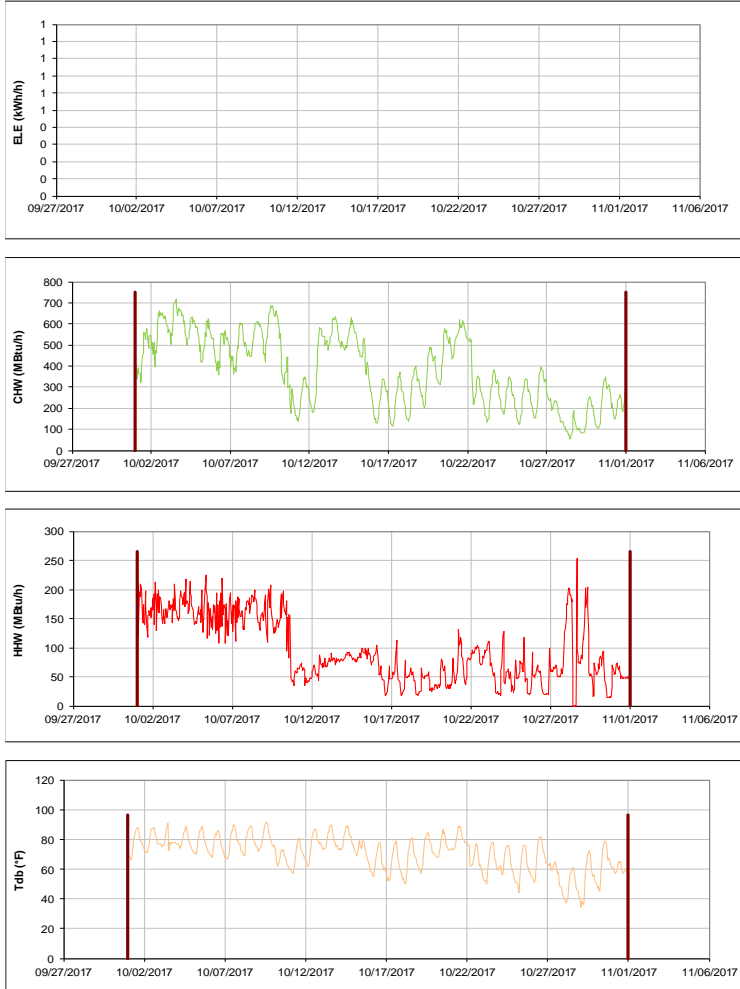


Figure III-141 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Plank LLC during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Ash II LLC

TAMU / BLDG #: 1405

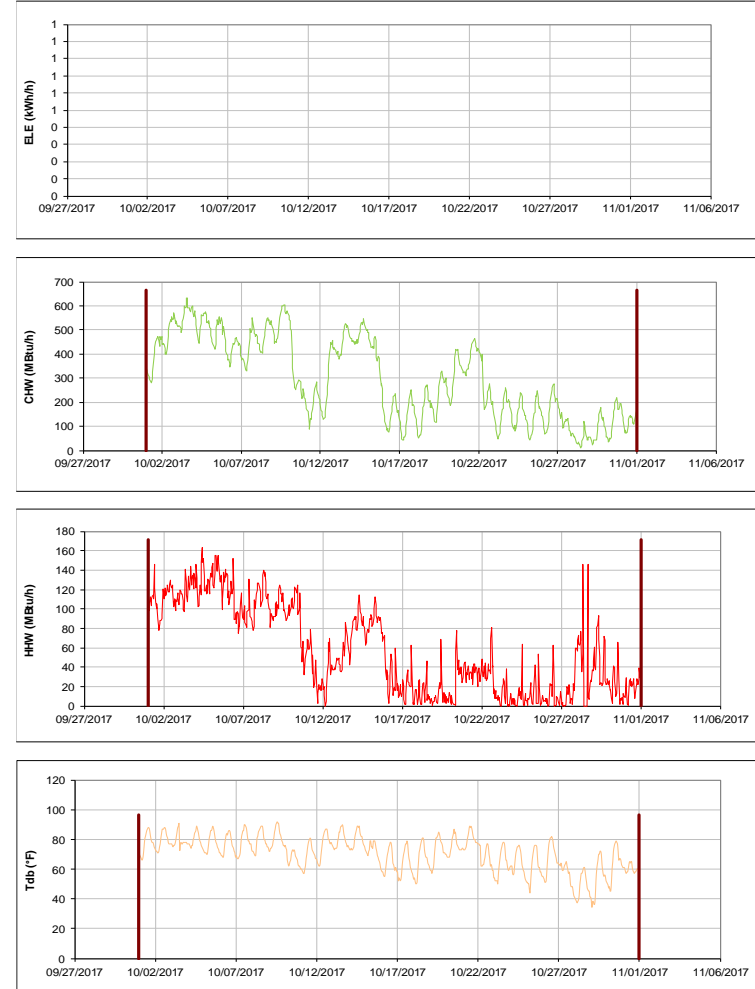


Figure III-142 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Ash II LLC during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Hullabaloo Residence Hall

TAMU / BLDG #: 1416



Figure III-143 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hullabaloo Residence Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - Laundry at the Gardens

TAMU / BLDG #: 1450

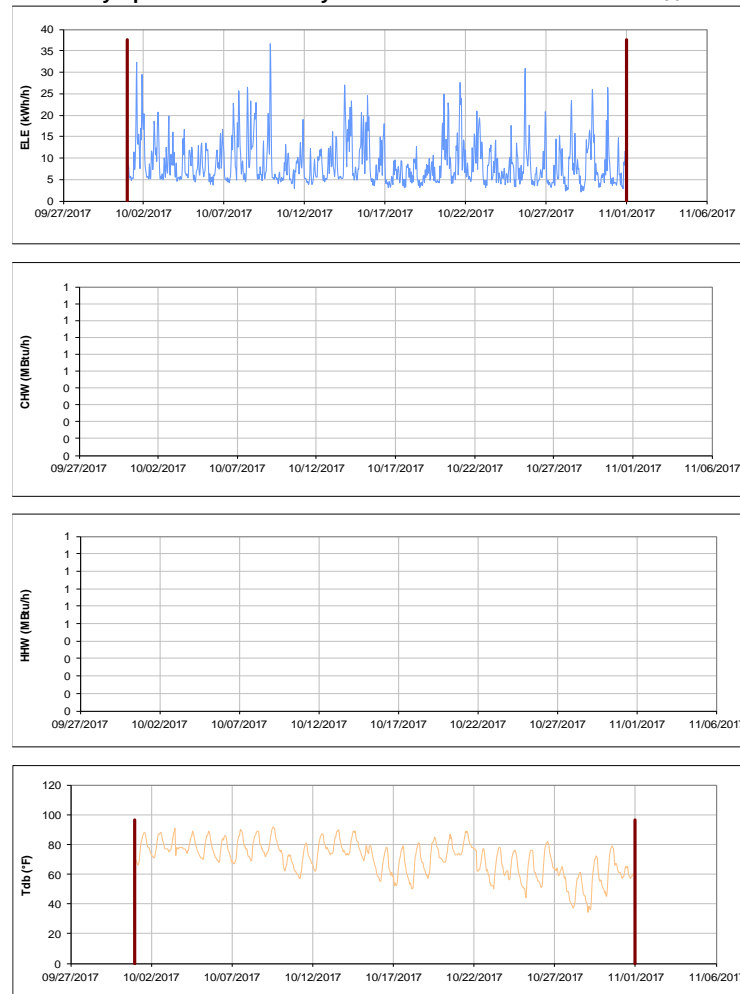


Figure III-144 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - Laundry at the Gardens during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

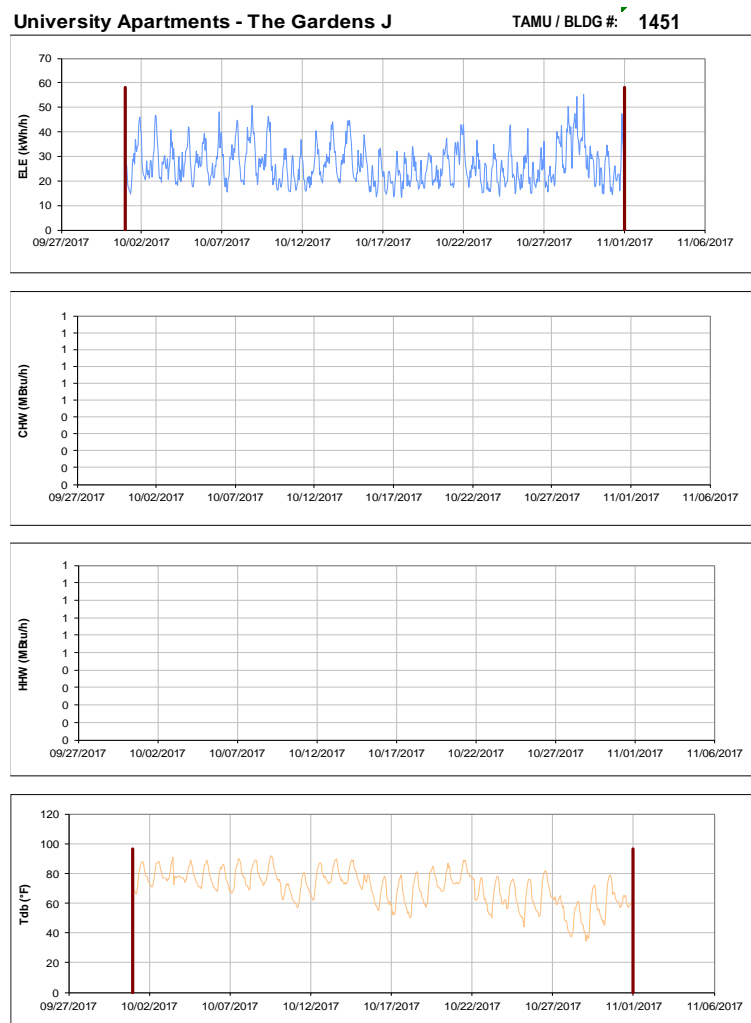


Figure III-145 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens J during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

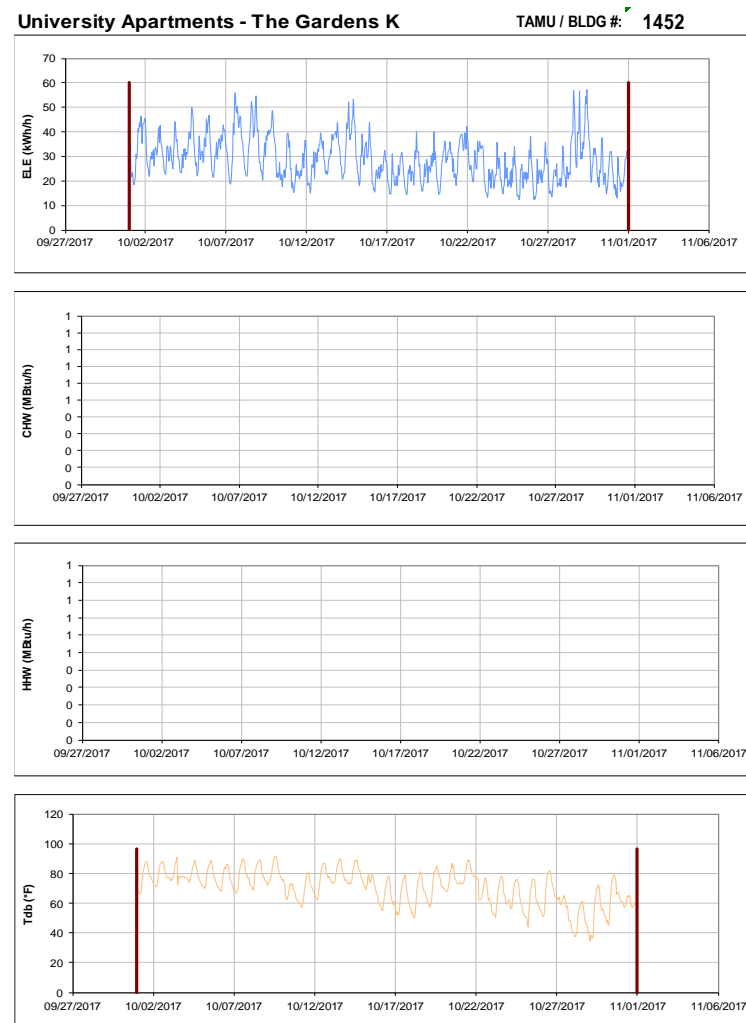


Figure III-146 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens K during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

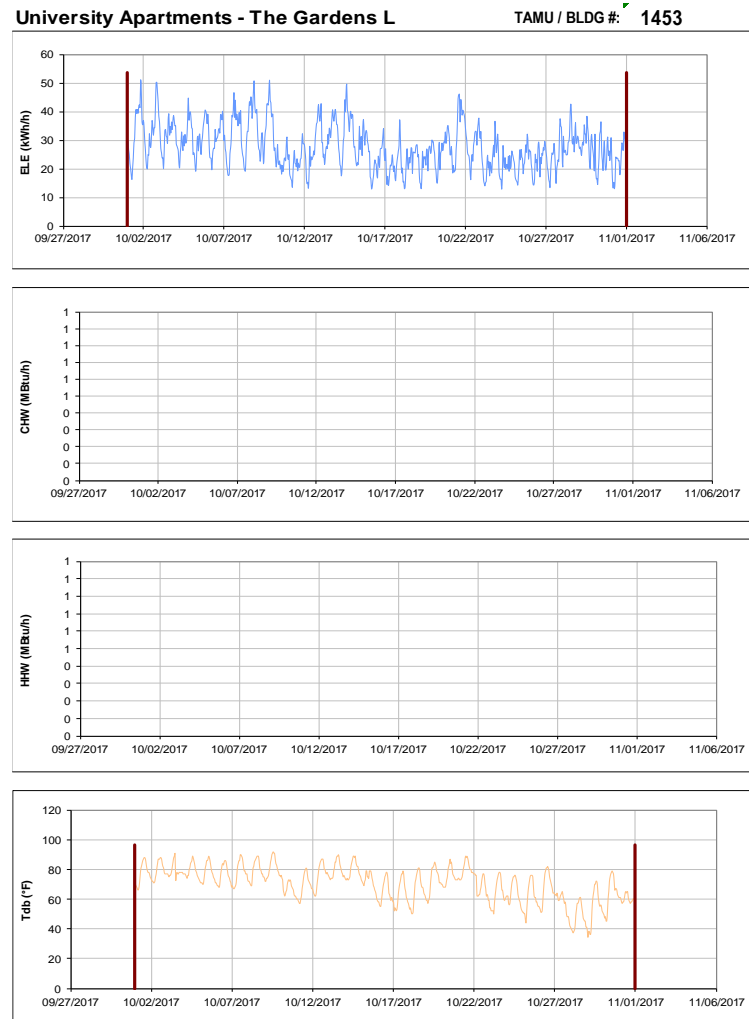


Figure III-147 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens L during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

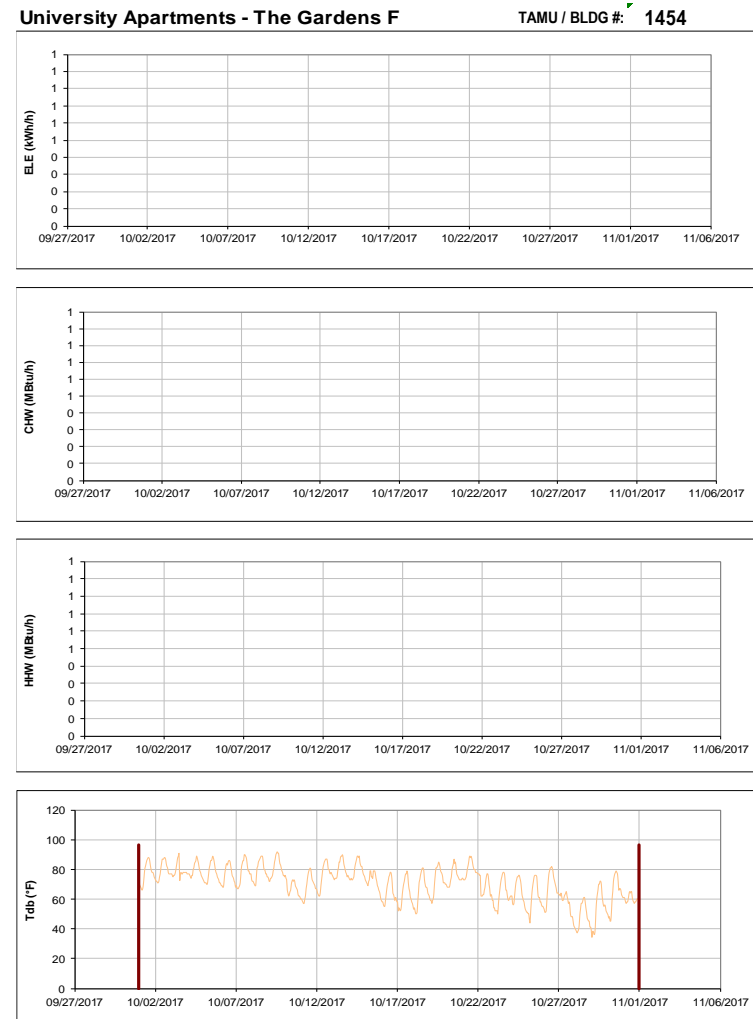


Figure III-148 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens F during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens G

TAMU / BLDG #: 1455

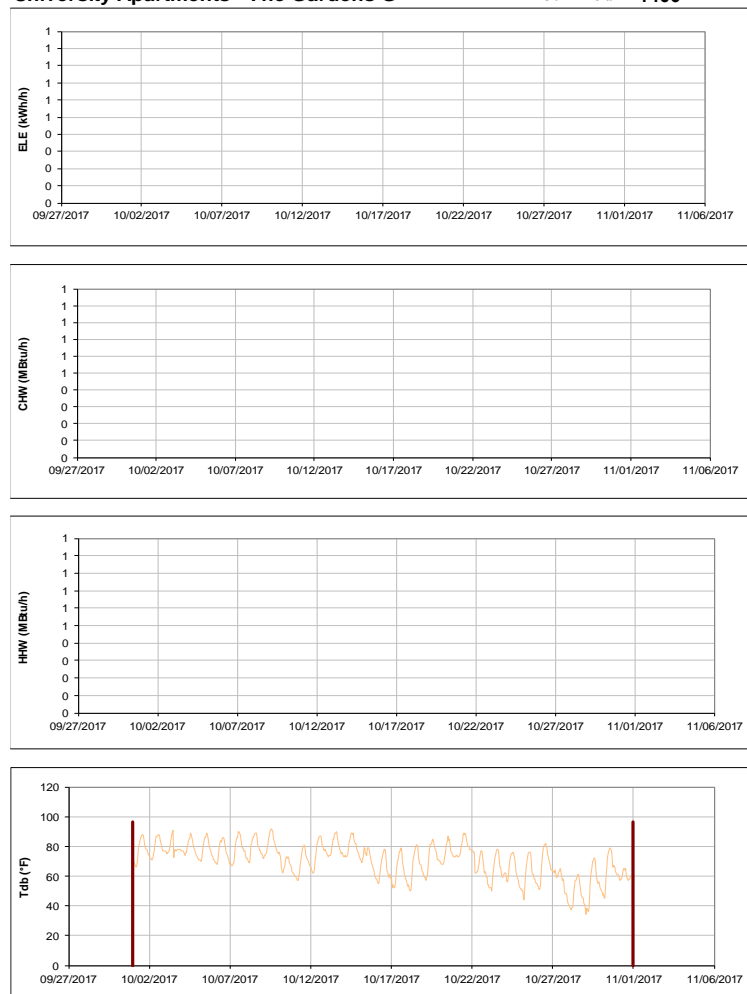


Figure III-149 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens G during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens H

TAMU / BLDG #: 1456

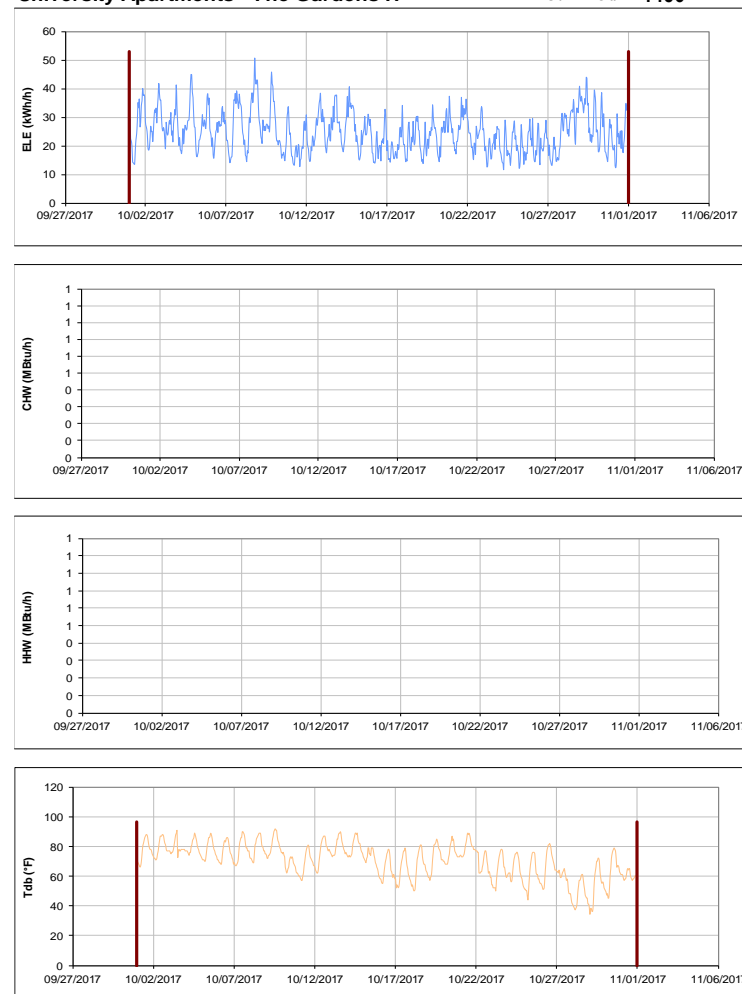


Figure III-150 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens H during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

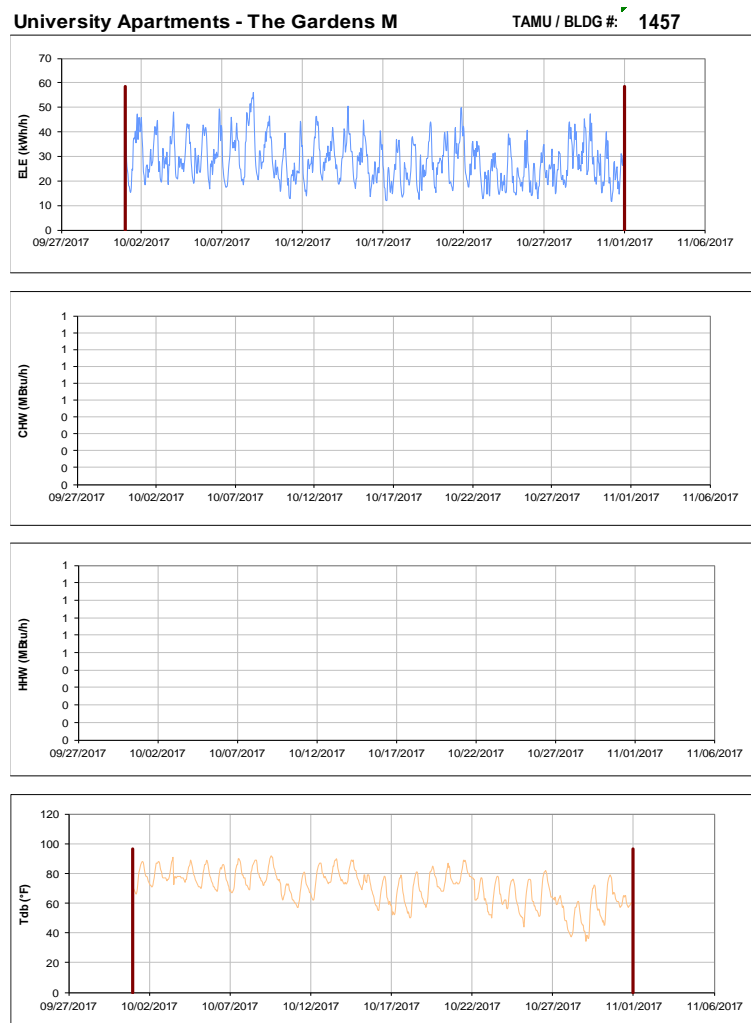


Figure III-151 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens M during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

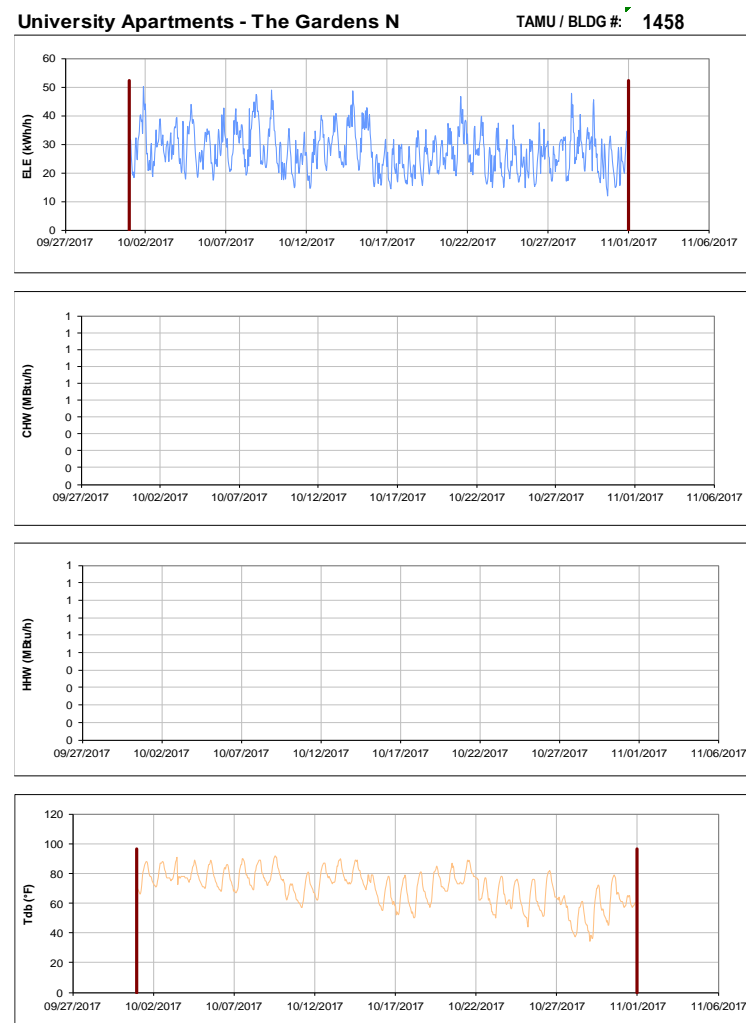


Figure III-152 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens N during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



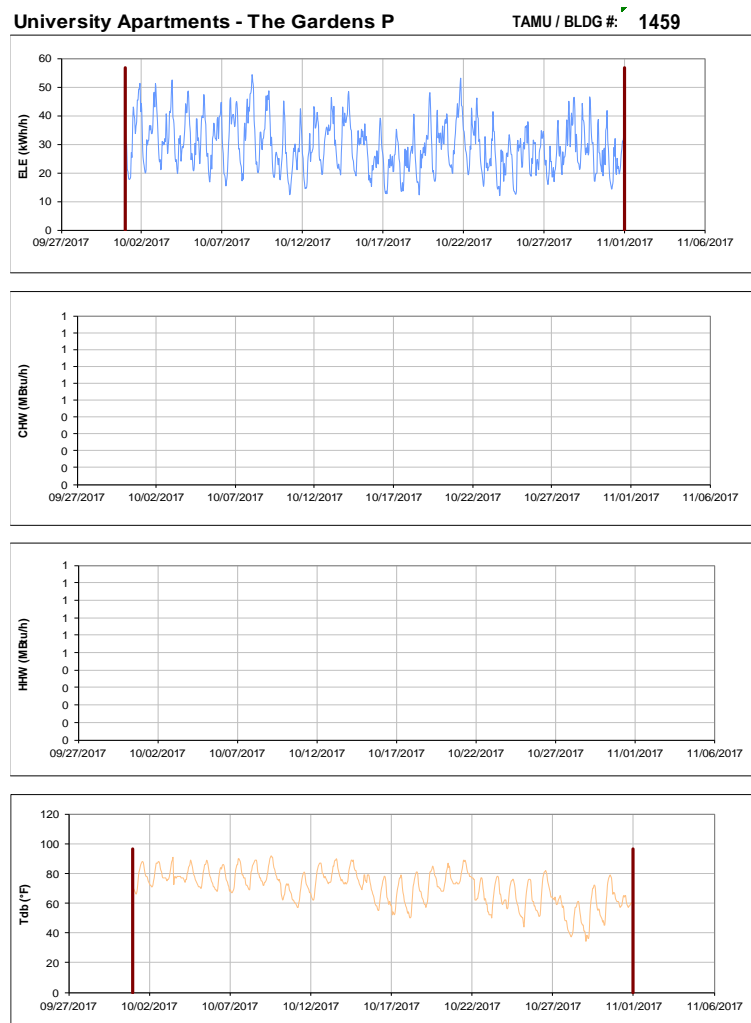


Figure III-153 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens P during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

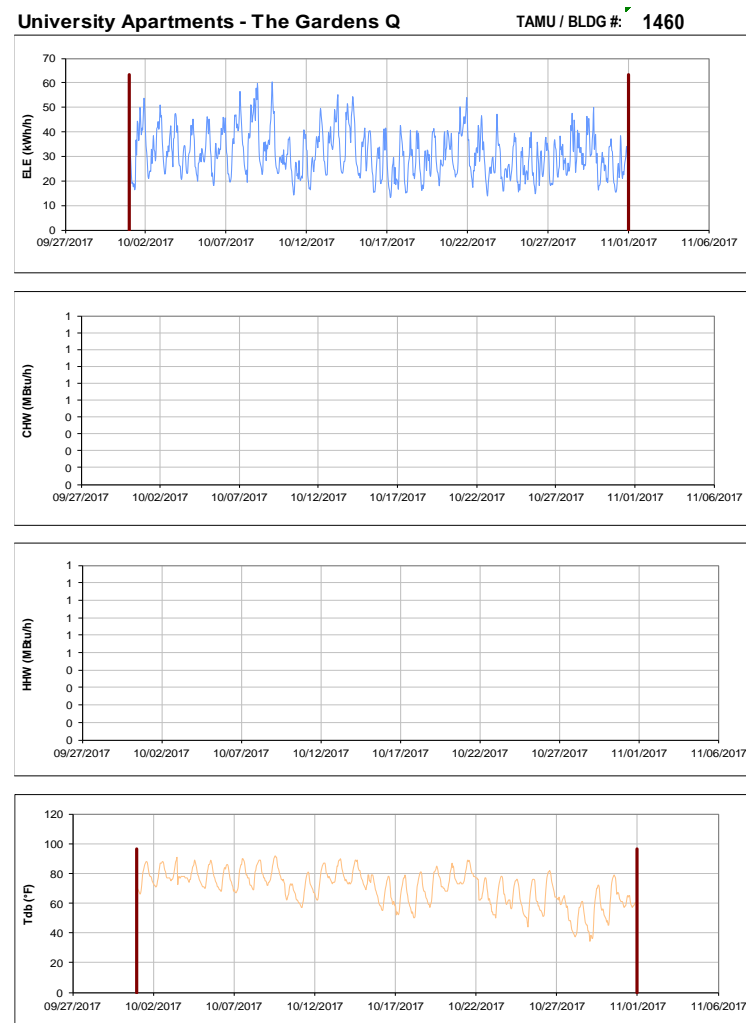


Figure III-154 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens Q during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utilities & Energy Services Business Office

TAMU / BLDG #: 1497

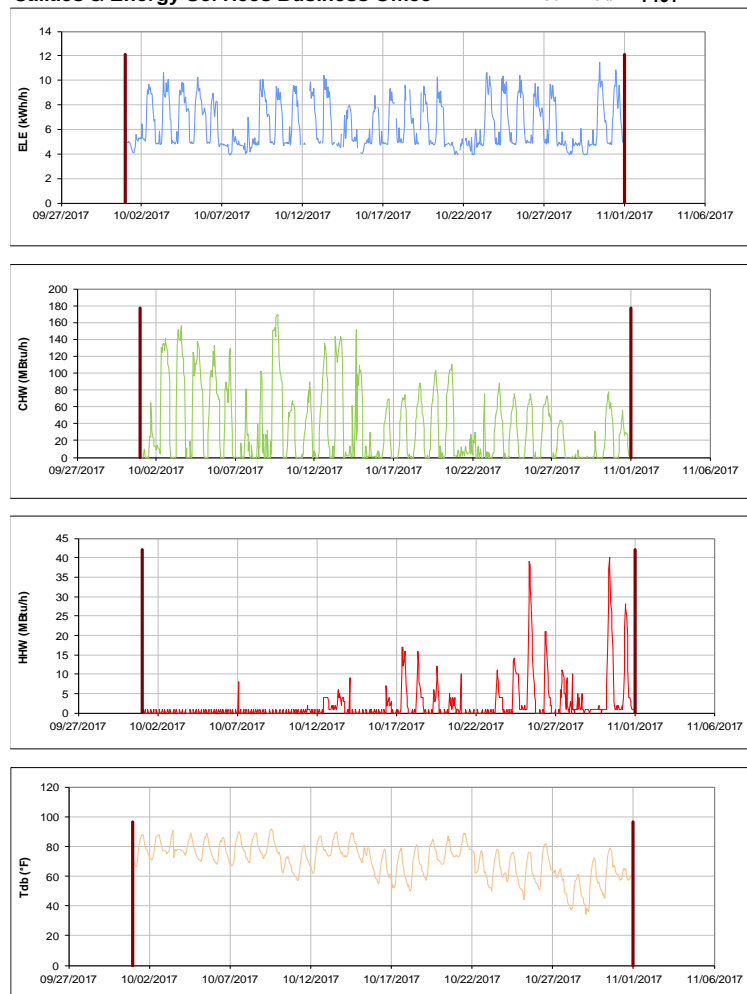


Figure III-155 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Business Office during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Kleberg Center

TAMU / BLDG #: 1501



Figure III-156 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kleberg Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-157 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

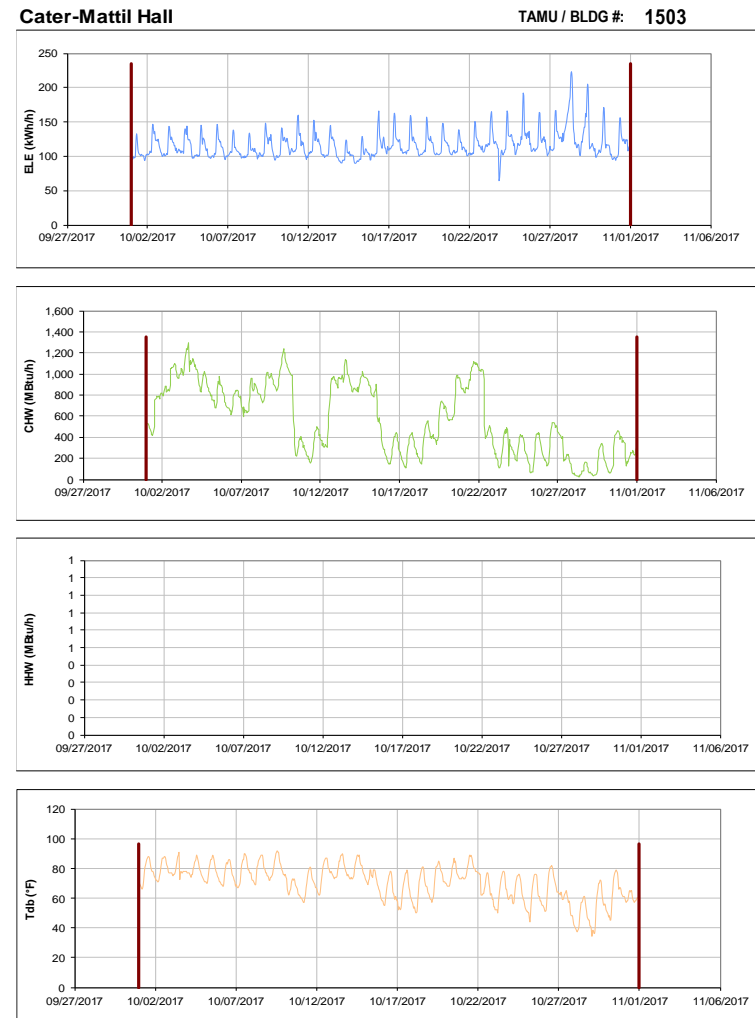


Figure III-158 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cater-Mattil Hall during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-159 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reynolds Medical Sciences Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

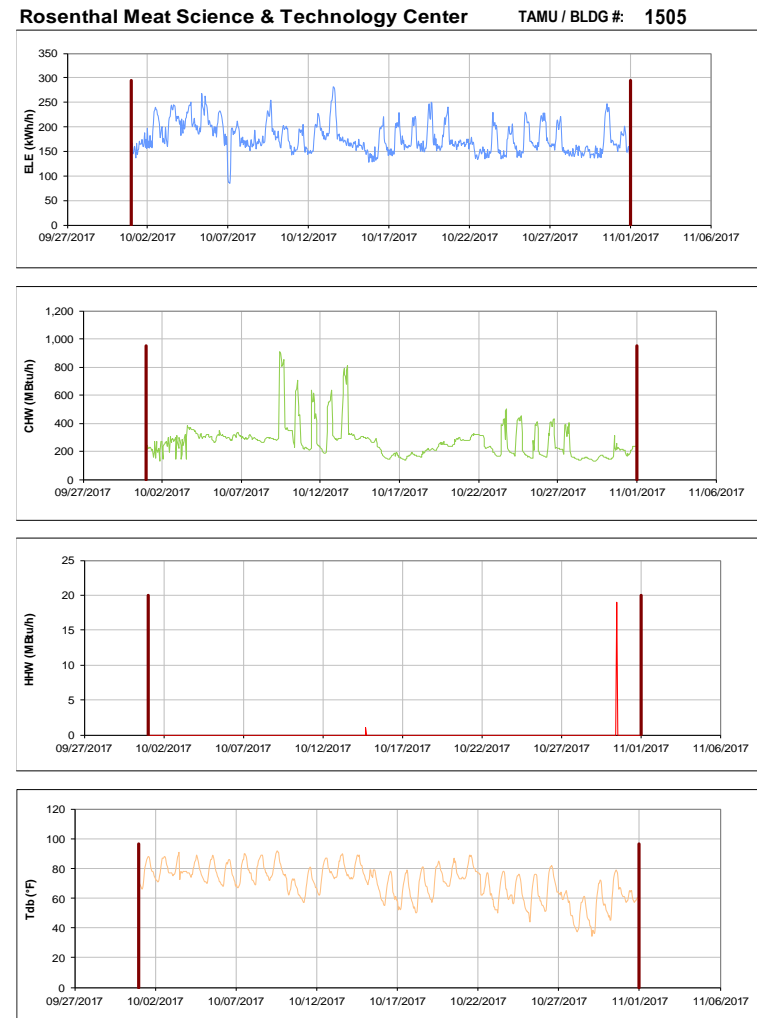


Figure III-160 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rosenthal Meat Science & Technology Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Horticulture-Forest Science Building**

TAMU / BLDG #: 1506

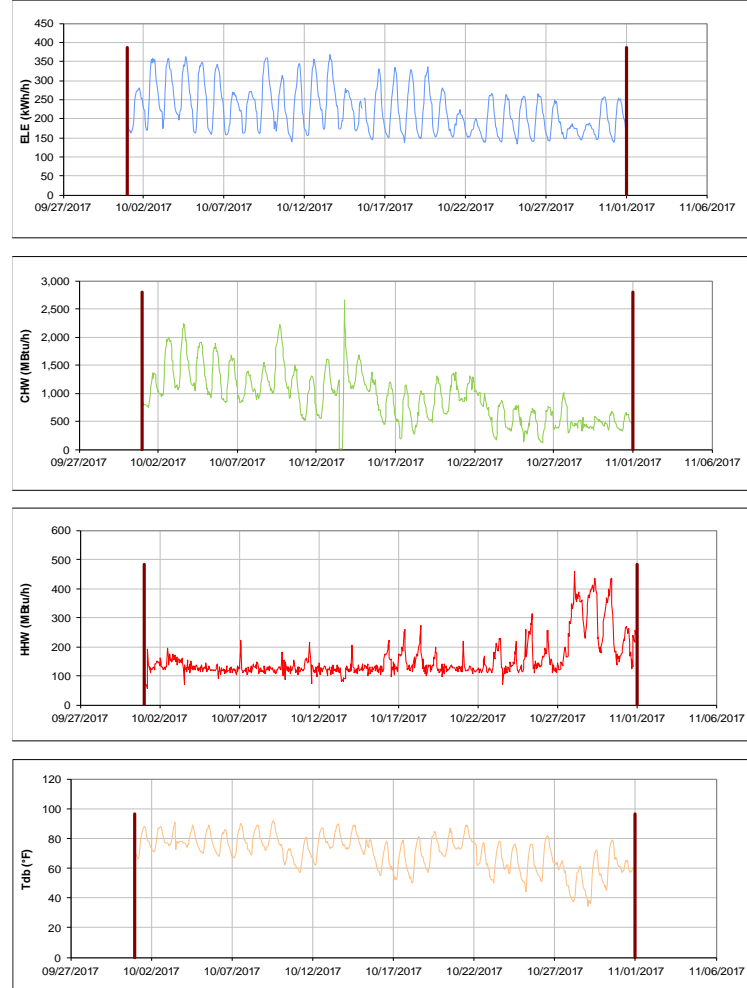


Figure III-161 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Horticulture-Forest Science Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Biochemistry-Biophysics Building**

TAMU / BLDG #: 1507



Figure III-162 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biochemistry-Biophysics Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Price Hobgood Ag. Engineering Research Lab TAMU / BLDG #: 1508

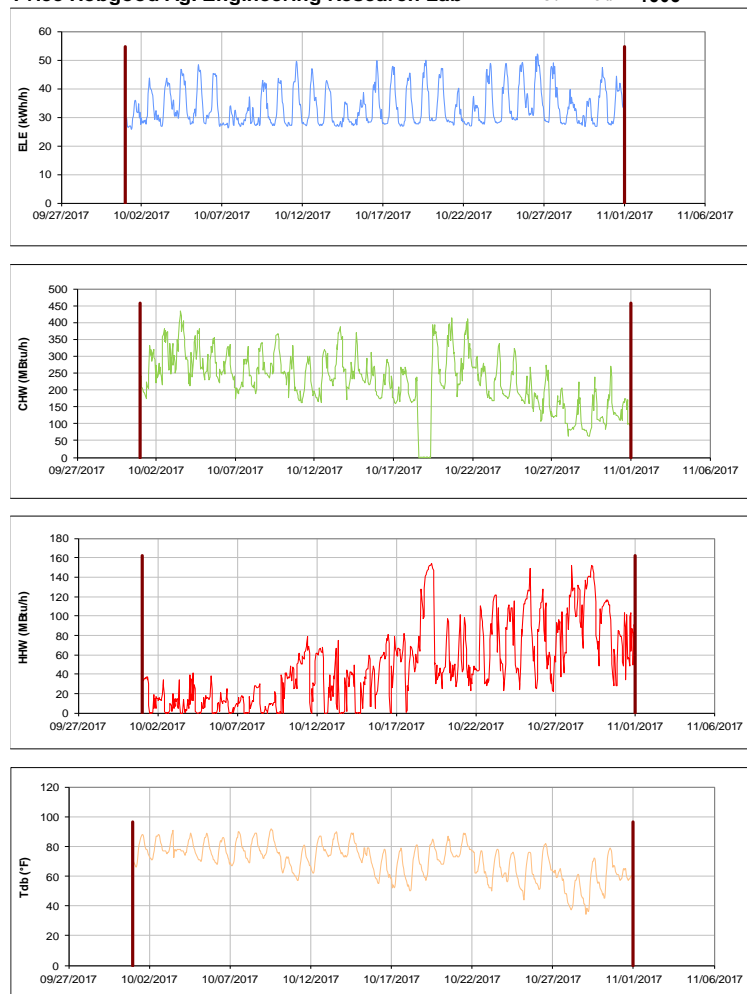


Figure III-163 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Price Hobgood Ag. Engineering Research Lab during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Medical Sciences Library TAMU / BLDG #: 1509



Figure III-164 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Medical Sciences Library during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Wehner Building**

TAMU / BLDG #: 1510



Figure III-165 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wehner Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**West Campus Library Facility**

TAMU / BLDG #: 1511



Figure III-166 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Library Facility during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Southern Crop Improvement Greenhouse**

TAMU / BLDG #: 1512

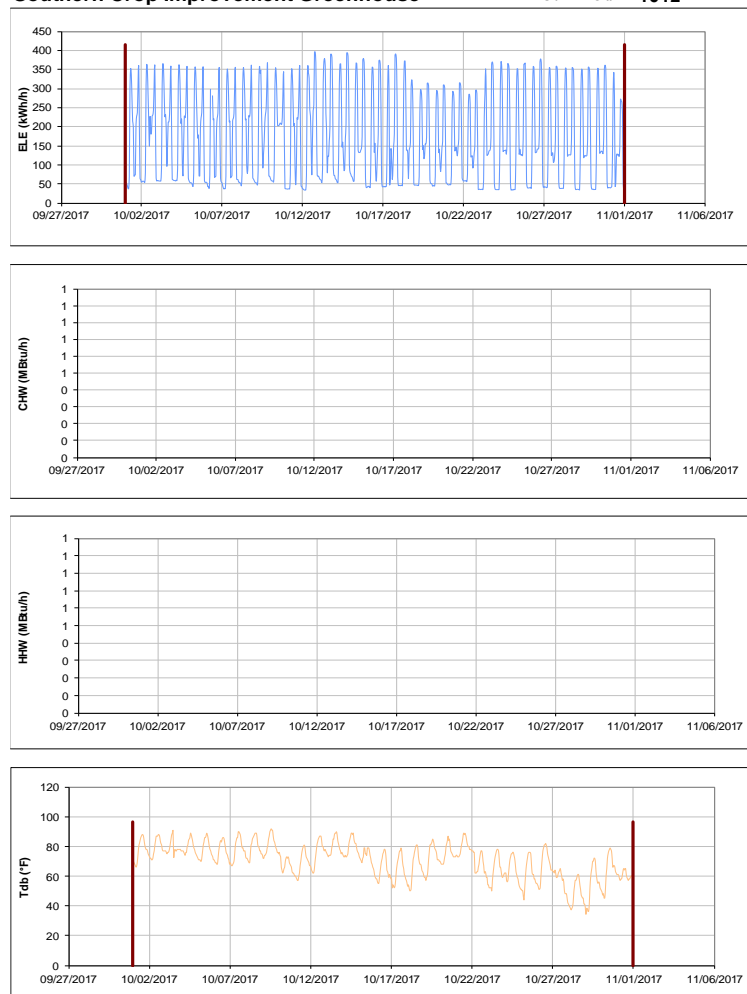


Figure III-167 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Southern Crop Improvement Greenhouse during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Borlaug Center for Southern Crop Improvement**

TAMU / BLDG #: 1513

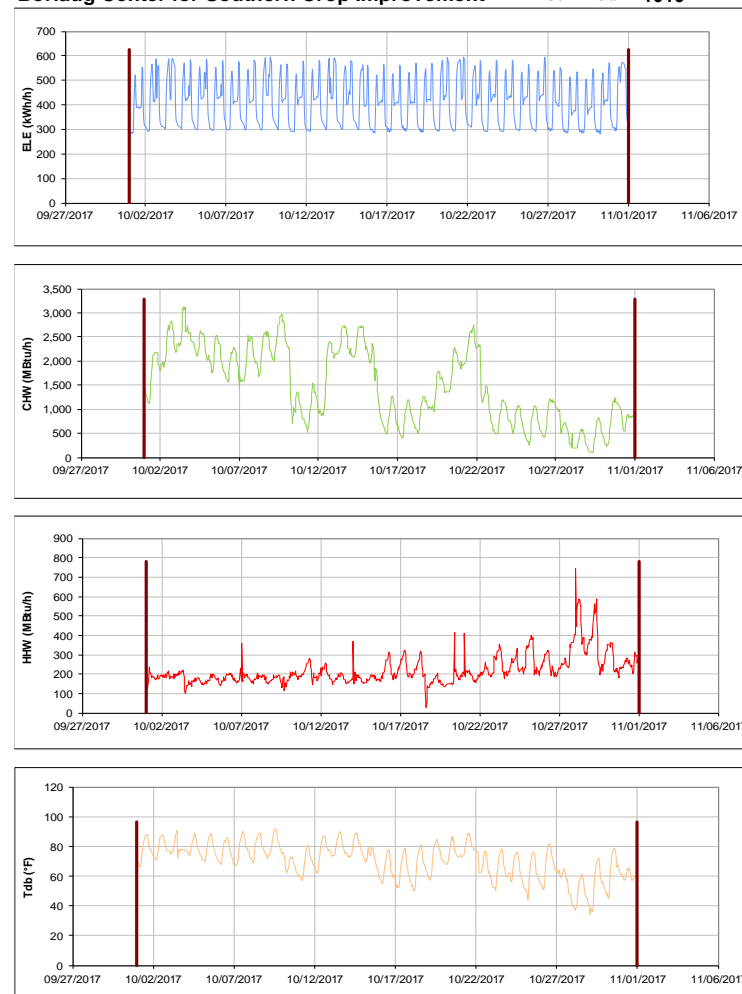


Figure III-168 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Borlaug Center for Southern Crop Improvement during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



**TX School of Rural Public Health**

TAMU / BLDG #: 1518



Figure III-169 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TX School of Rural Public Health during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Nuclear Magnetic Resonance Facility**

TAMU / BLDG #: 1525



Figure III-170 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nuclear Magnetic Resonance Facility during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

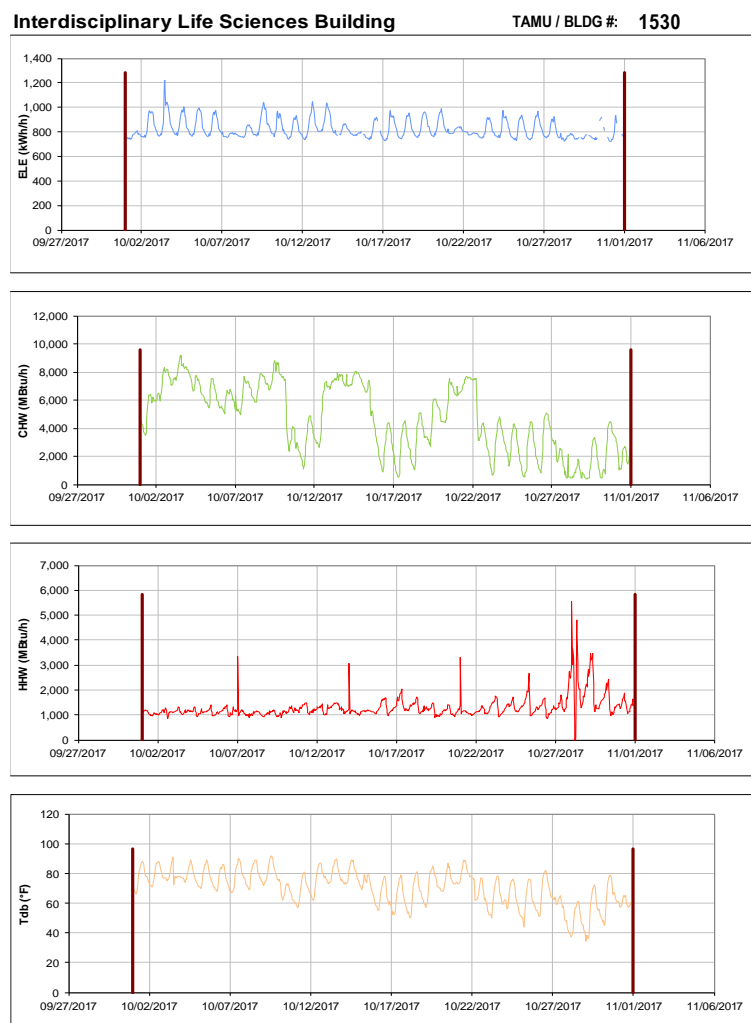


Figure III-171 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Interdisciplinary Life Sciences Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

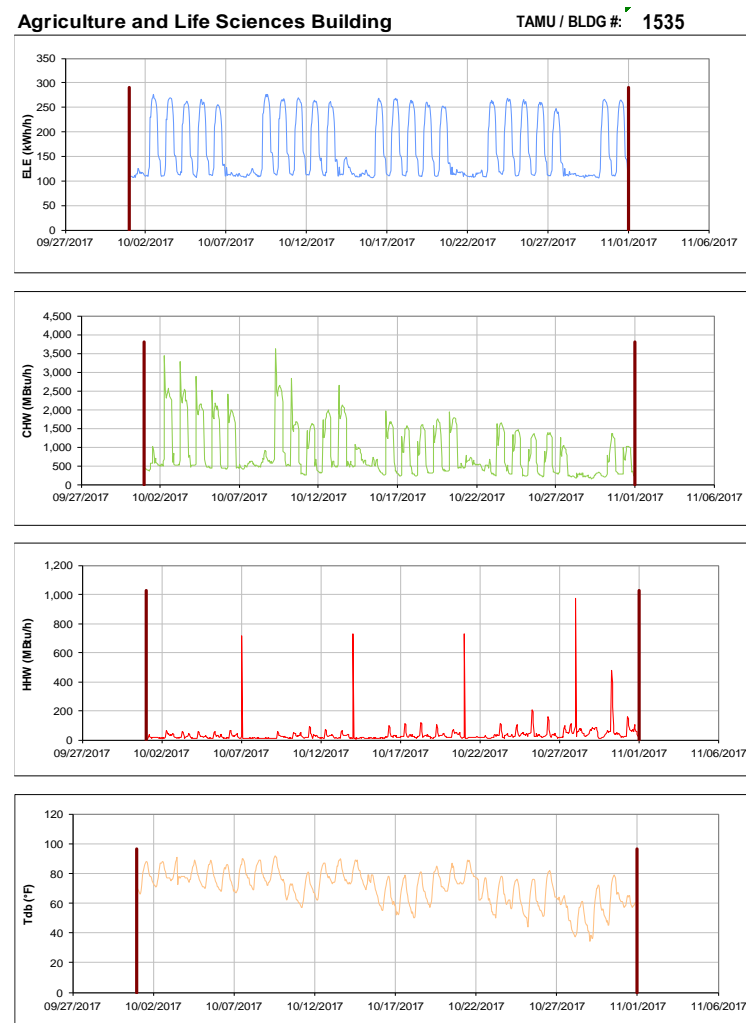


Figure III-172 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture and Life Sciences Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**AgriLife Services Building**

TAMU / BLDG #: 1536



Figure III-173 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for AgriLife Services Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Wildlife Fisheries & Ecological Sciences Building**

TAMU / BLDG #: 1537

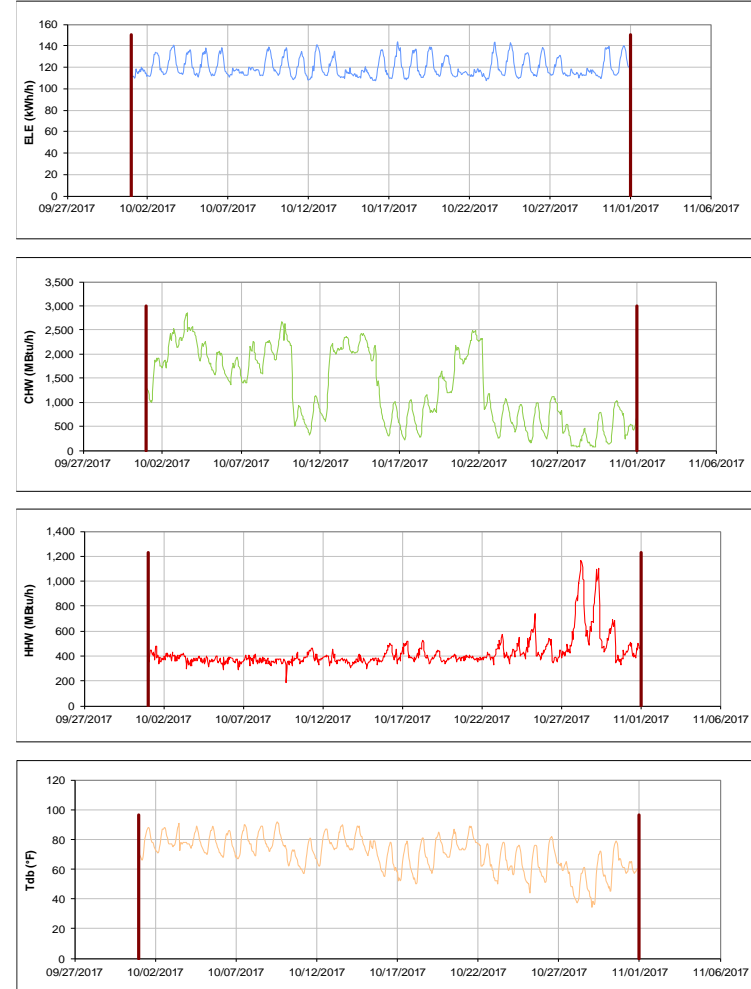


Figure III-174 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wildlife Fisheries & Ecological Sciences Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Agriculture Program Visitors Center**

TAMU / BLDG #: 1538



Figure III-175 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Program Visitors Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Physical Education Activity Program Building**

TAMU / BLDG #: 1540

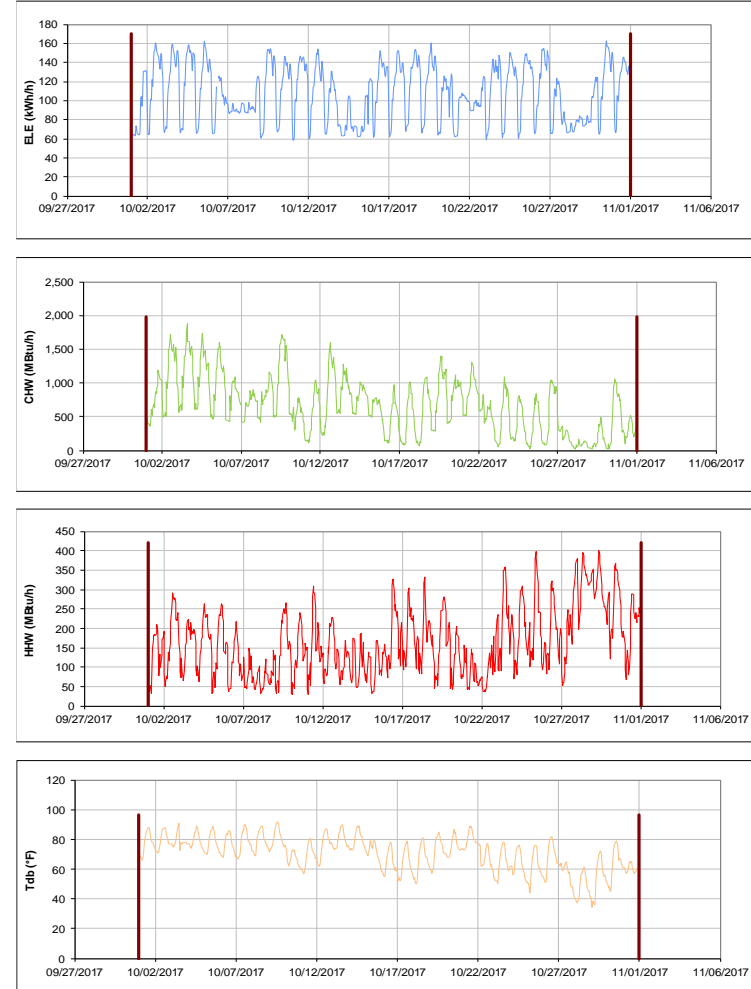


Figure III-176 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Education Activity Program Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

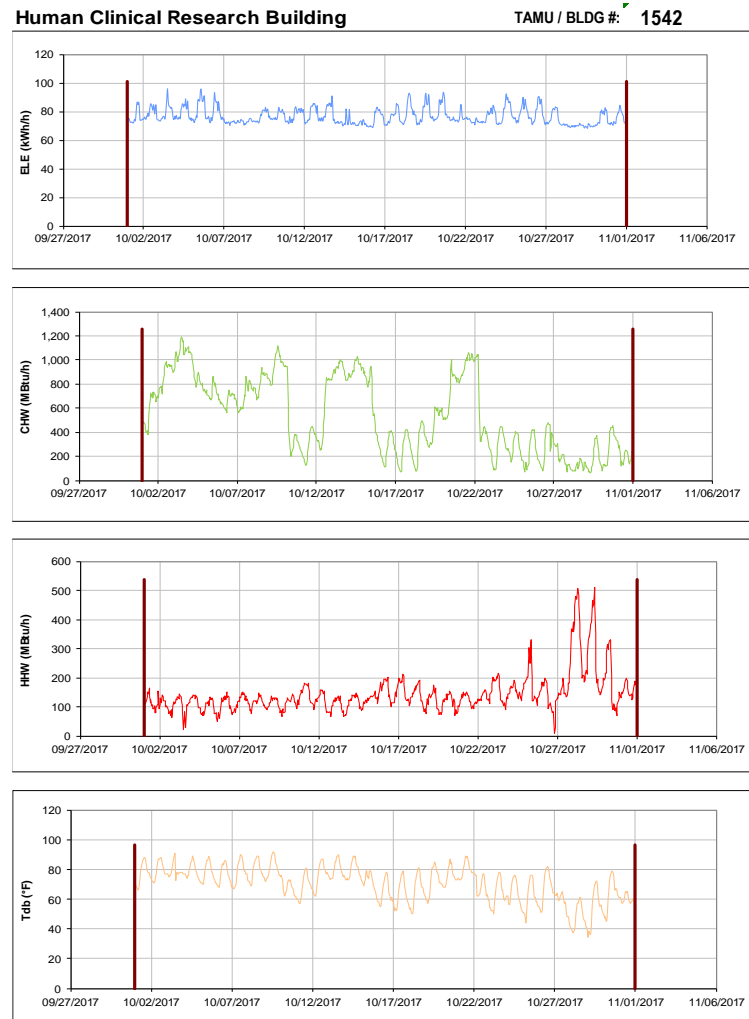


Figure III-177 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Human Clinical Research Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

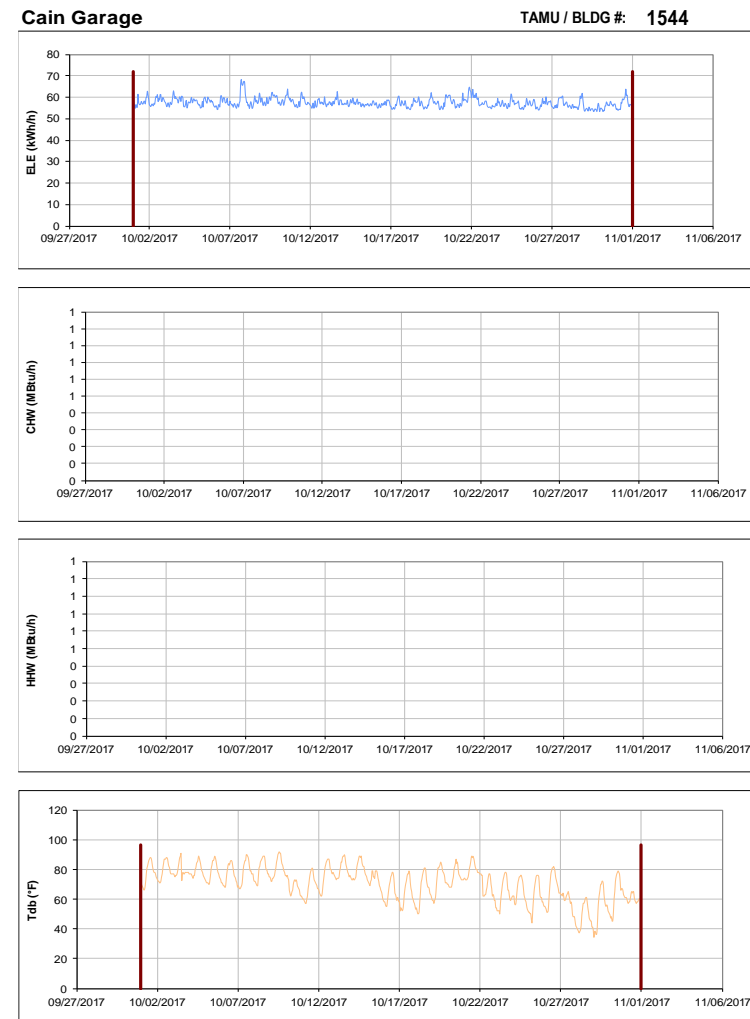


Figure III-178 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cain Garage during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Olsen Field at Bluebell Park

TAMU / BLDG #: 1550

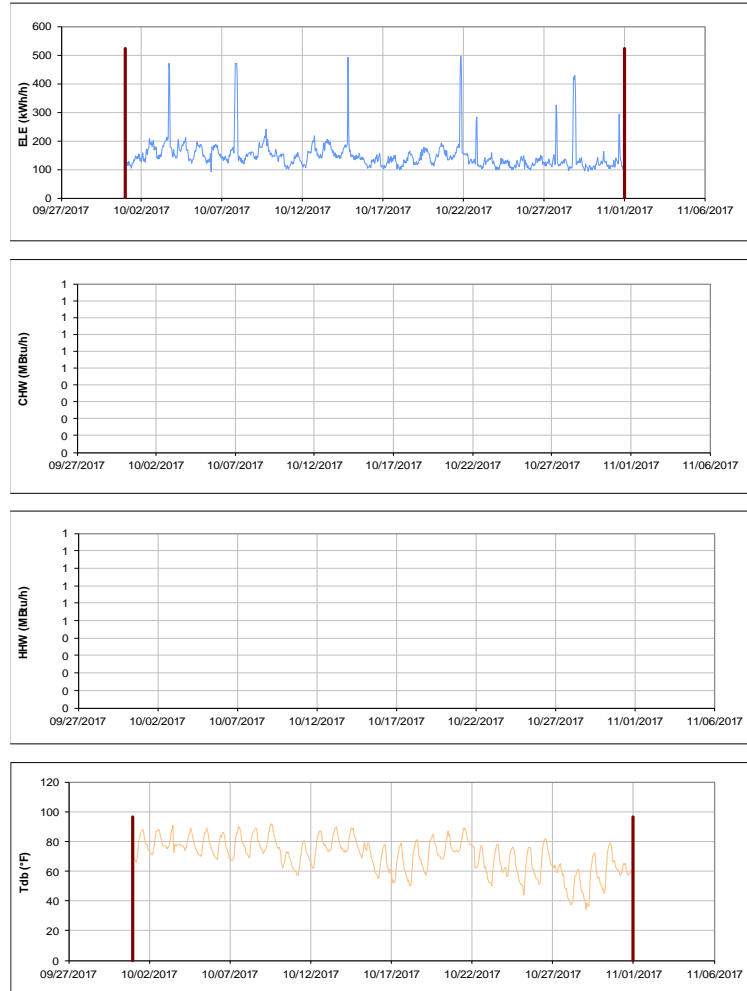


Figure III-179 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Olsen Field at Bluebell Park during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed Arena and Cox-McFerrin Center

TAMU / BLDG #: 554-1558

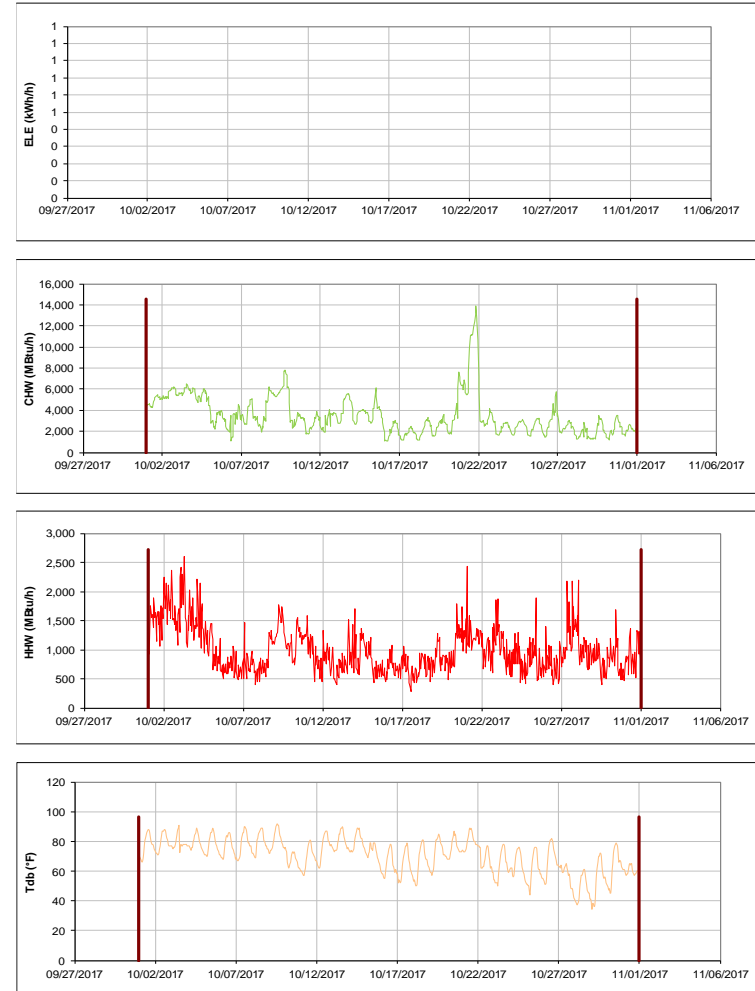


Figure III-180 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed Arena and Cox-McFerrin Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Cox-McFerrin Center for Aggie Basketball

TAMU / BLDG #: 1558



Figure III-181 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cox-McFerrin Center for Aggie Basketball during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

West Campus Parking Garage

TAMU / BLDG #: 1559



Figure III-182 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Parking Garage during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Student Recreation Center**

TAMU / BLDG #: 1560



Figure III-183 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Student Recreation Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**White Creek Apartment 1 and White Creek Apts Activity Center**

TAMU / BLDG #: 589-1590



Figure III-184 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 1 and White Creek Apts Activity Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station,



White Creek Apartment 2

TAMU / BLDG #: 1591

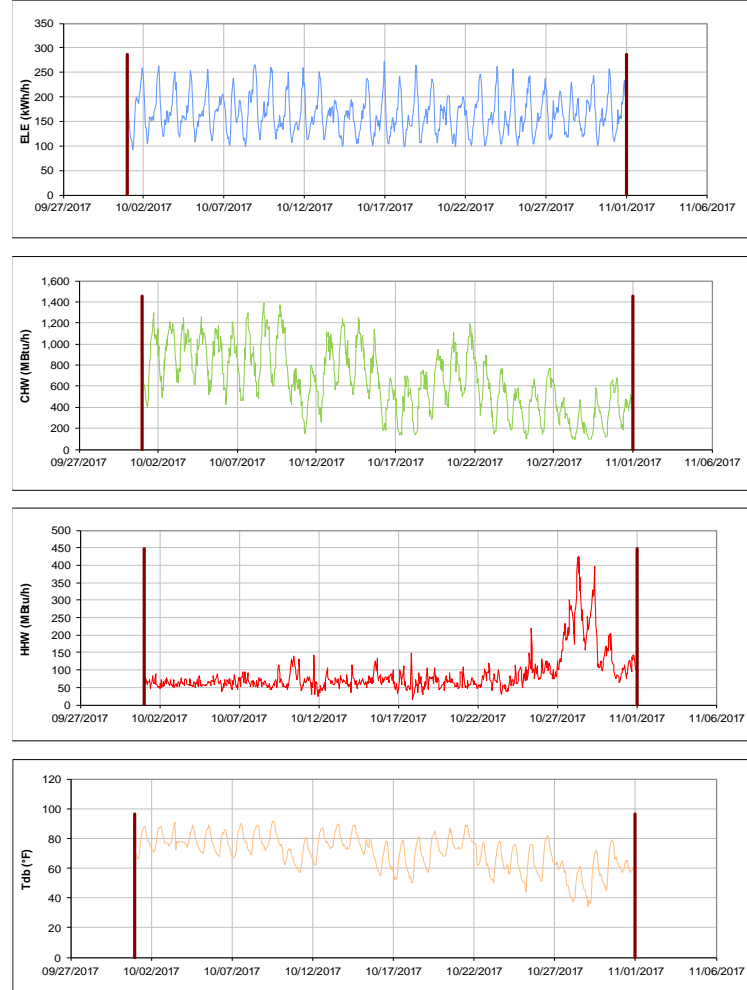


Figure III-185 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 2 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

White Creek Apartment 3

TAMU / BLDG #: 1592

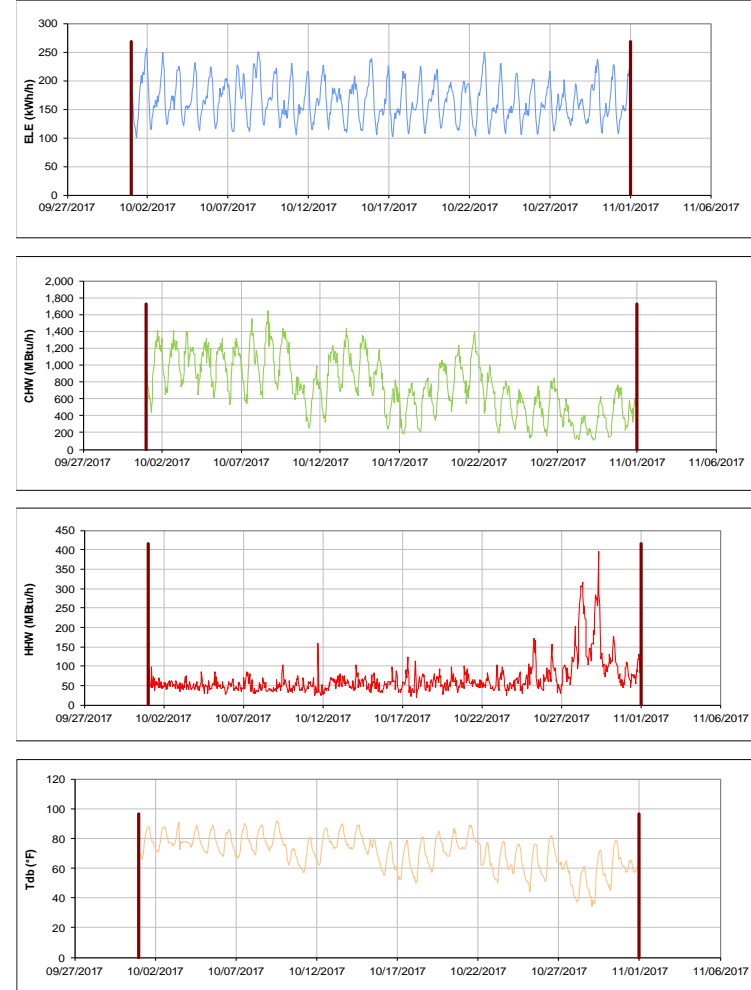


Figure III-186 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 3 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-187 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gilchrist TTI Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

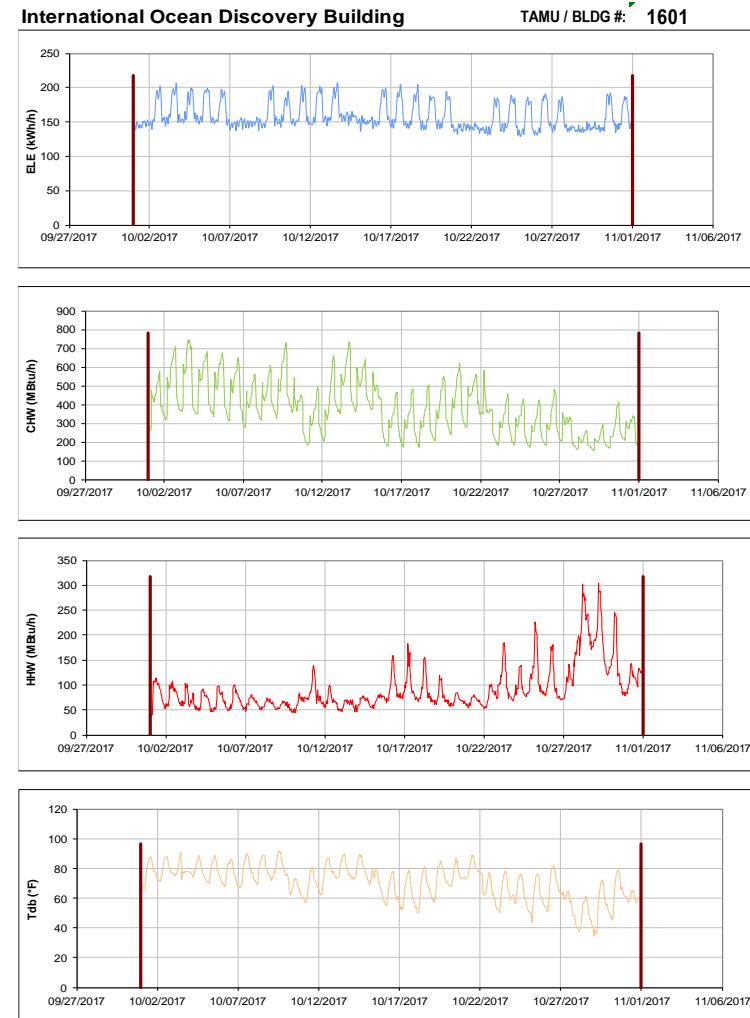


Figure III-188 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for International Ocean Discovery Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Offshore Technology Research Center

TAMU / BLDG #: 1604

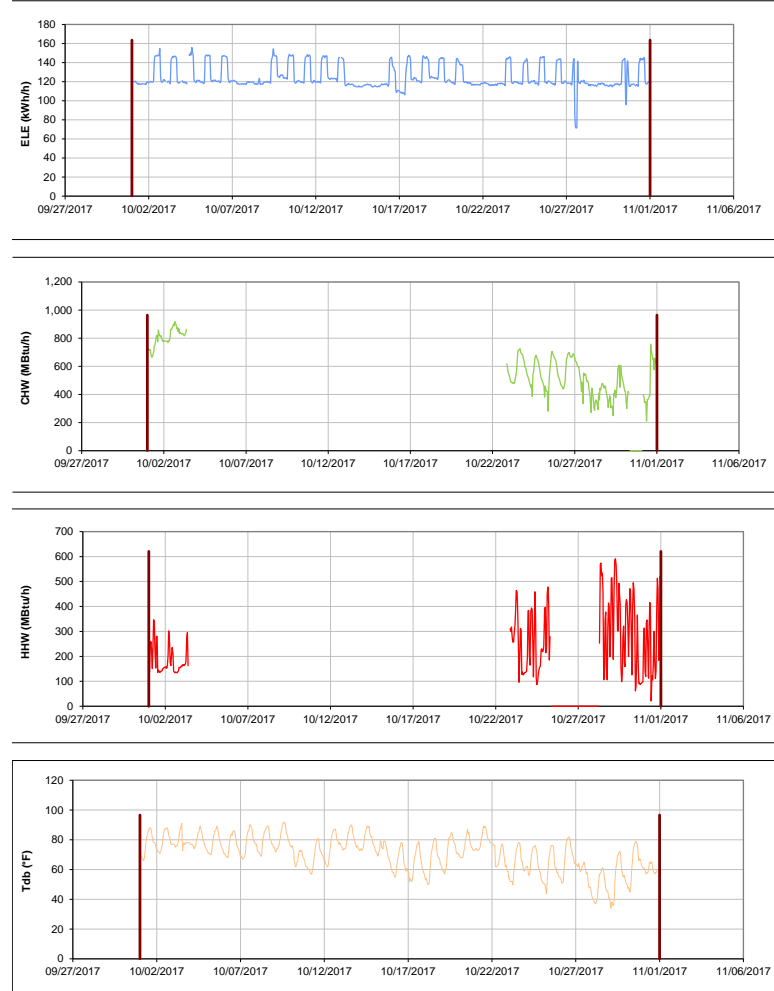


Figure III-189 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Offshore Technology Research Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

George Bush Presidential Library & Museum

TAMU / BLDG #: 1606

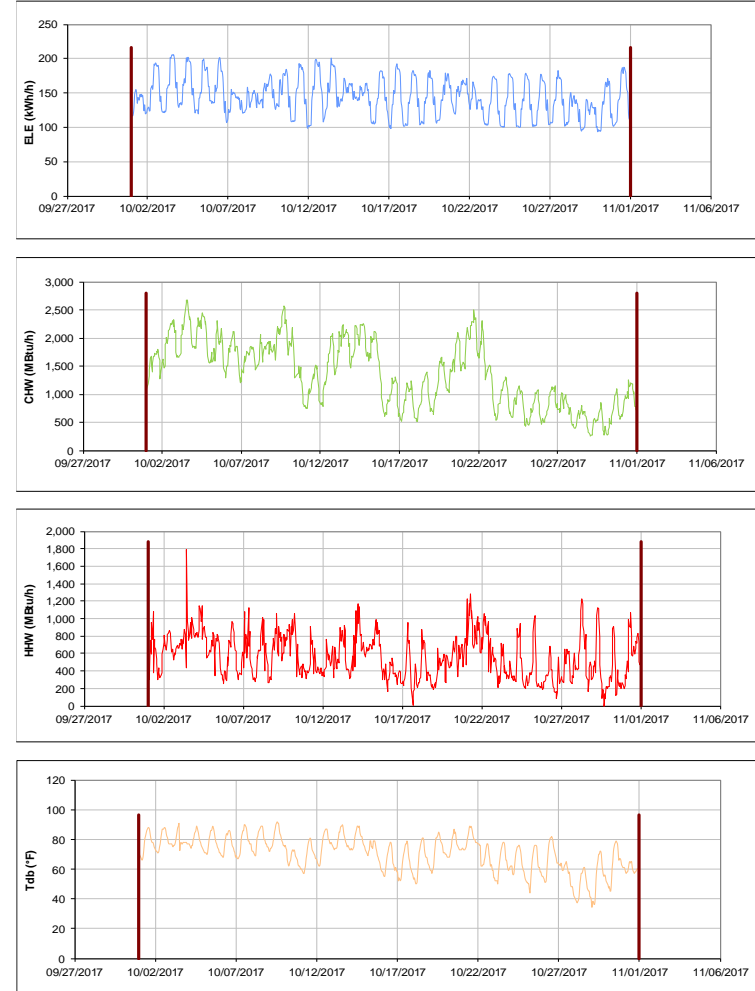


Figure III-190 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for George Bush Presidential Library & Museum during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

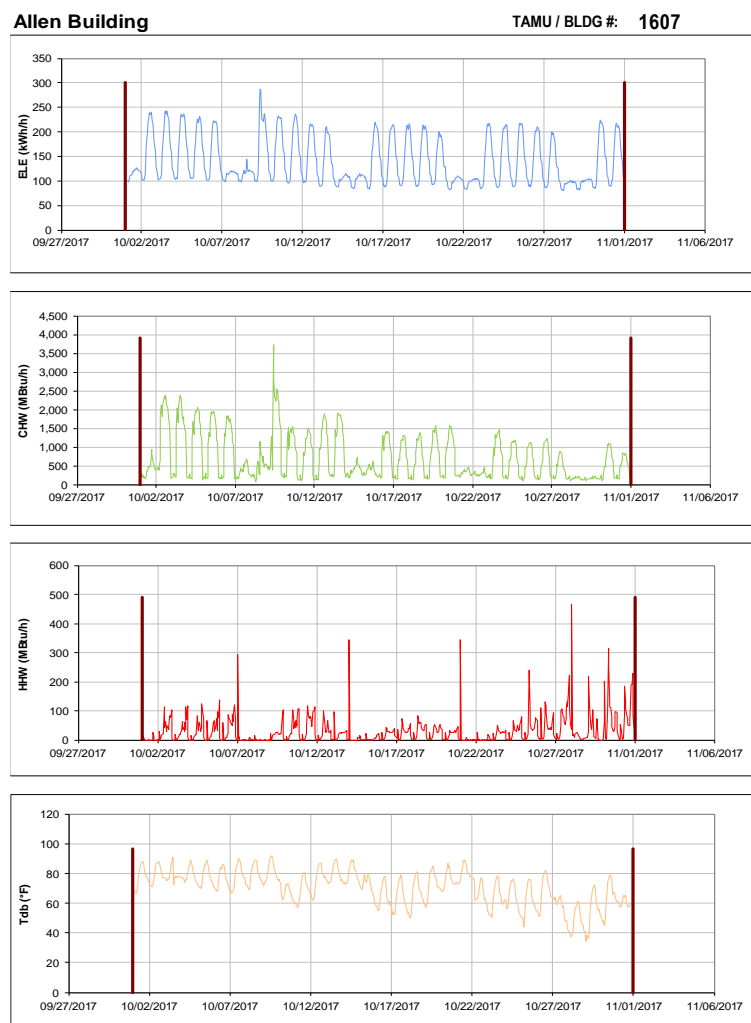


Figure III-191 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Allen Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

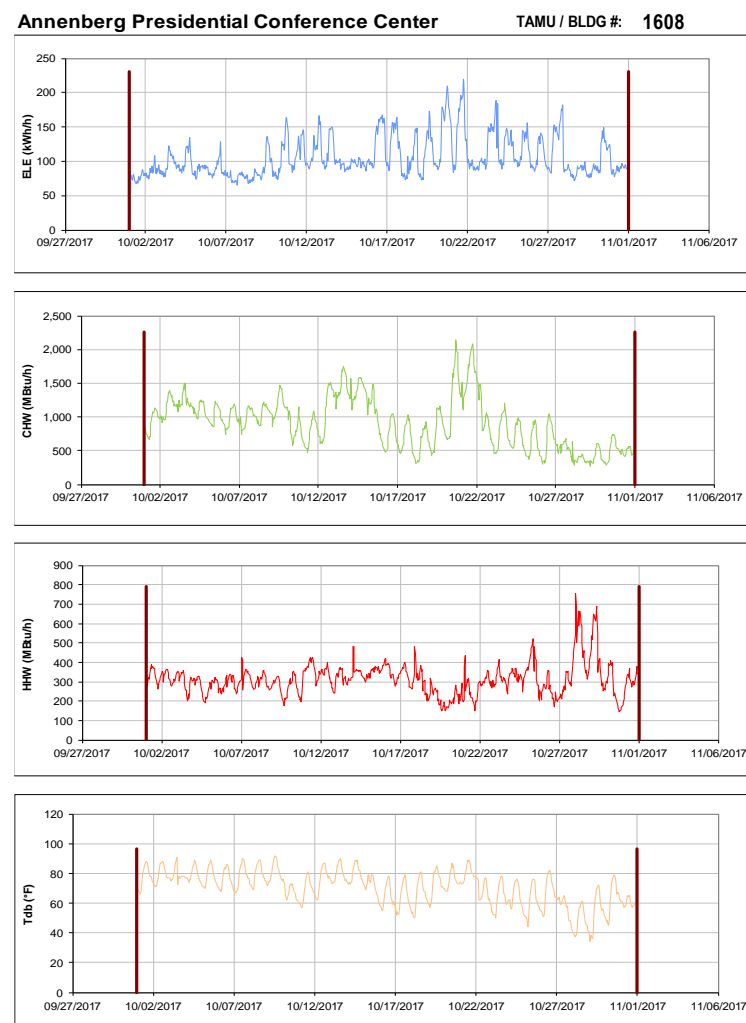


Figure III-192 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Annenberg Presidential Conference Center during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

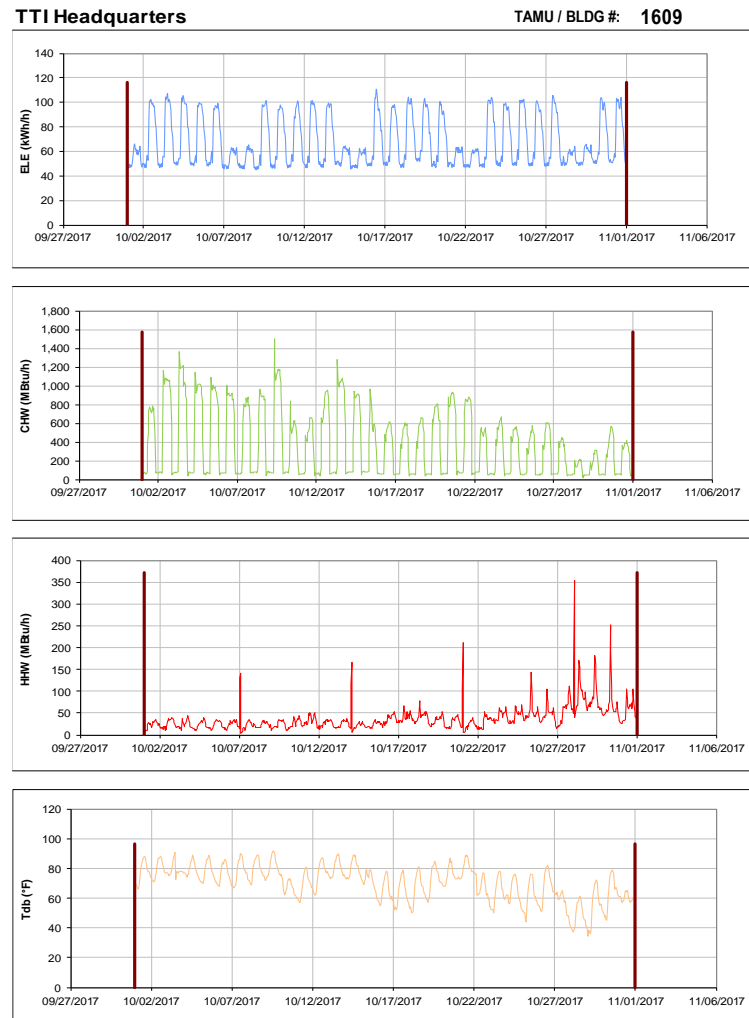


Figure III-193 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TTI Headquarters during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

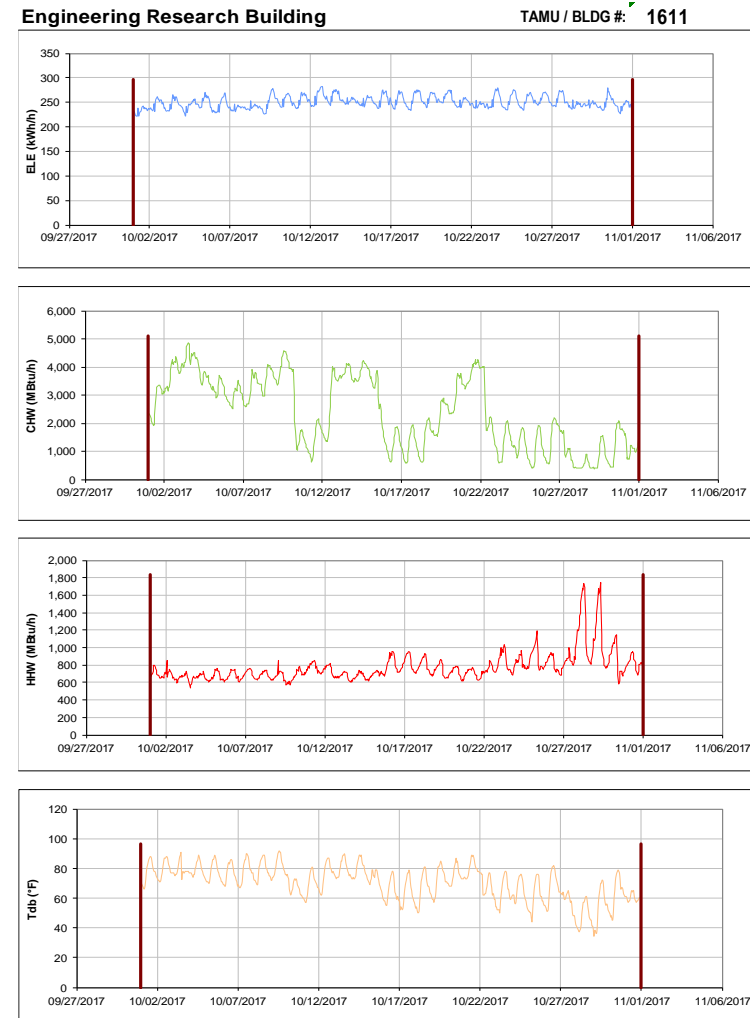


Figure III-194 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Research Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

General Services Complex

TAMU / BLDG #: 1800

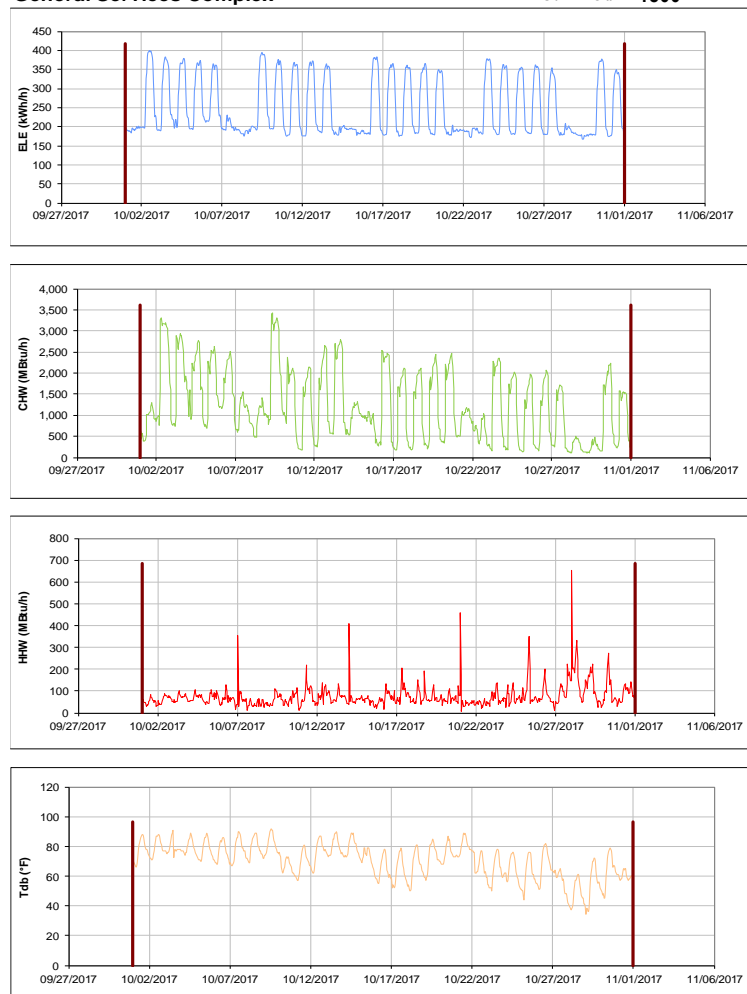


Figure III-195 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for General Services Complex during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

New TVMDL

TAMU / BLDG #: 1809

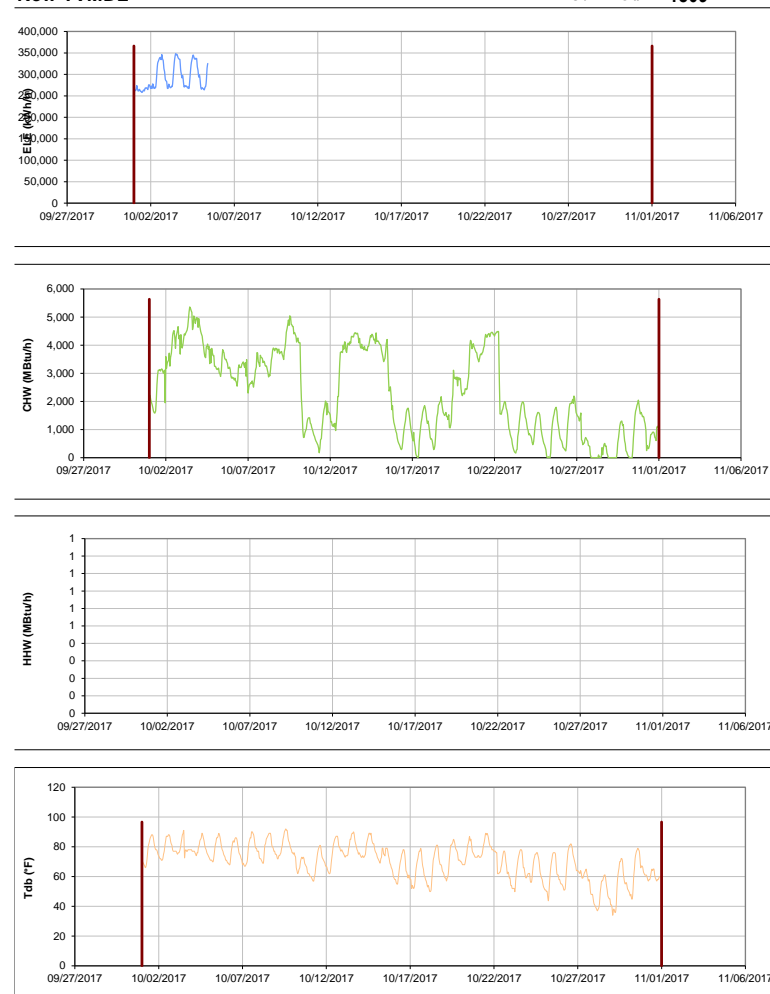


Figure III-196 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for New TVMDL during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Office of the State Chemist Building

TAMU / BLDG #: 1810

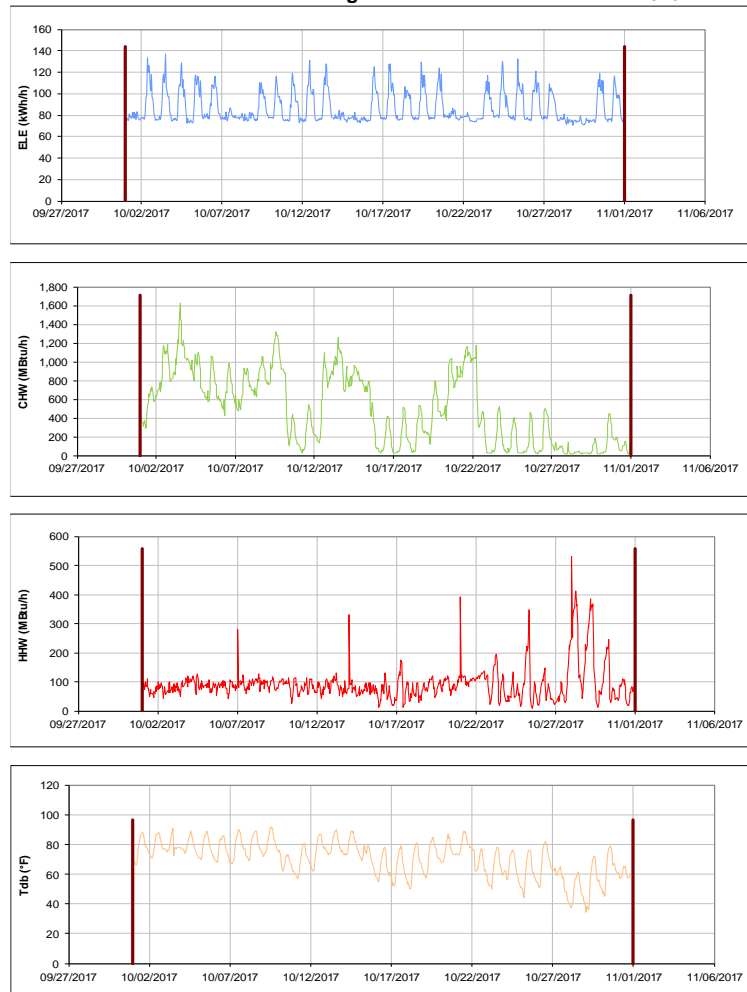


Figure III-197 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Office of the State Chemist Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Vet Med Research Bldg Addition

TAMU / BLDG #: 1811

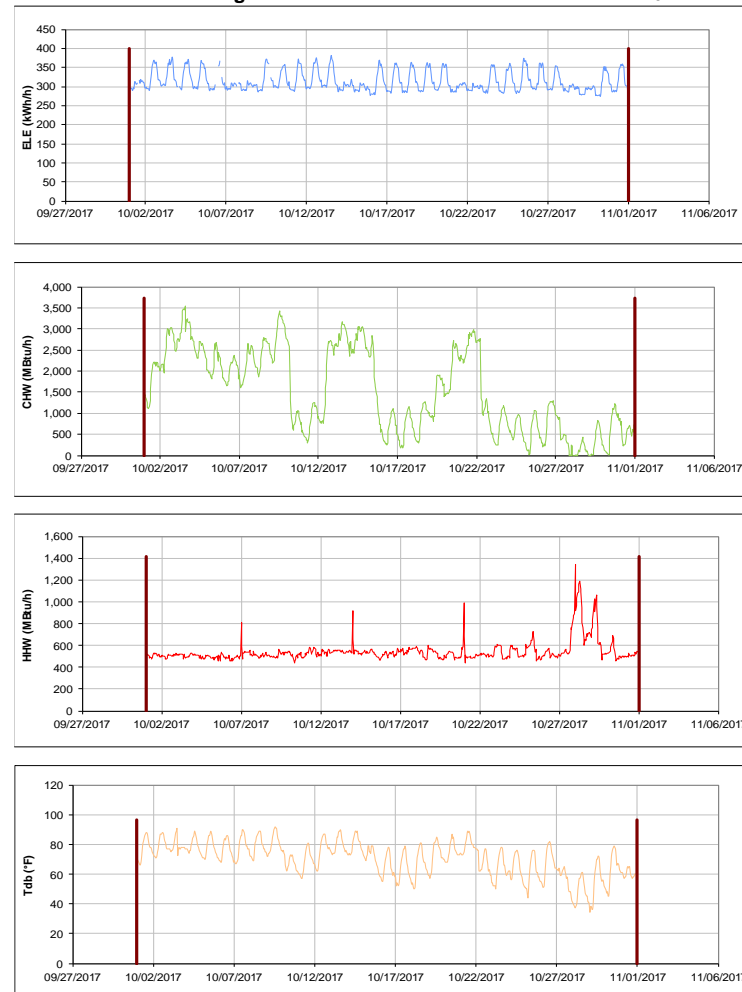


Figure III-198 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vet Med Research Bldg Addition during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Veterinary Medicine Building 1, 2, and 3**

TAMU / BLDG #: 2-1813-1814

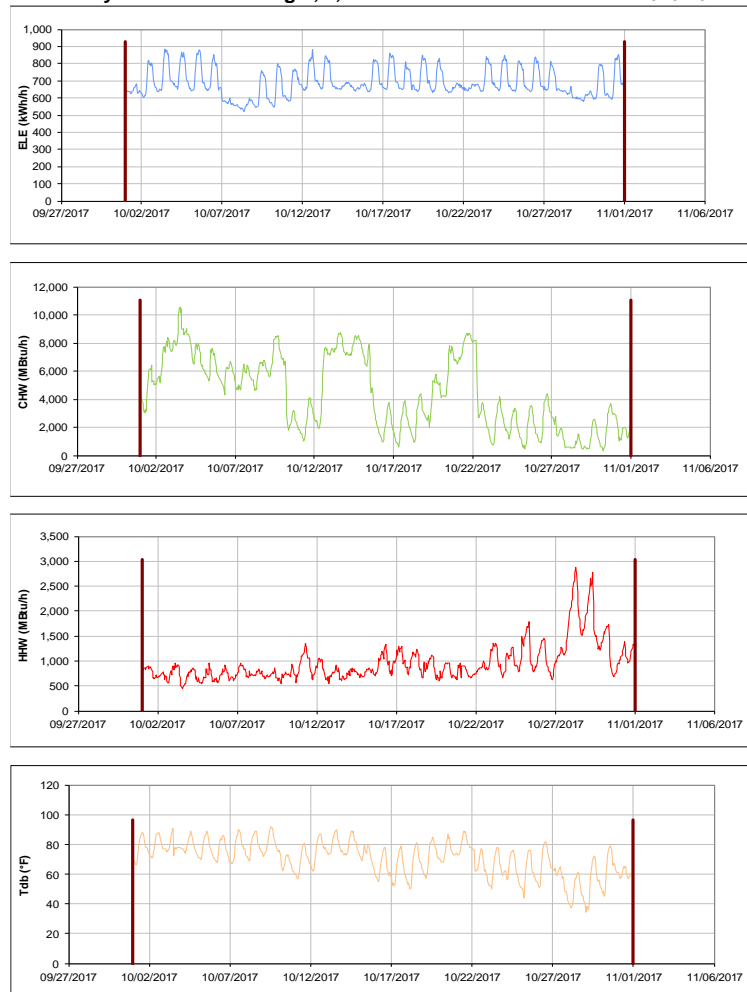


Figure III-199 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Building 1, 2, and 3 during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**Texas Institute for Genomic Medicine**

TAMU / BLDG #: 1900

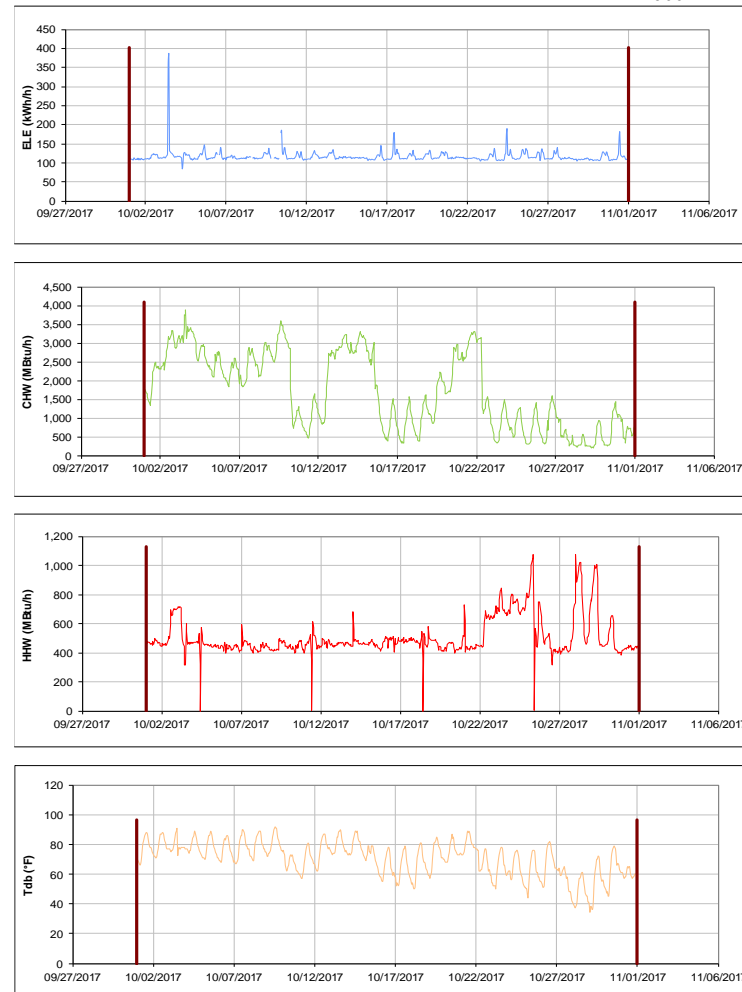


Figure III-200 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Institute for Genomic Medicine during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



**Texas A&M Institute for Preclinical Studies A** TAMU / BLDG #: 1904

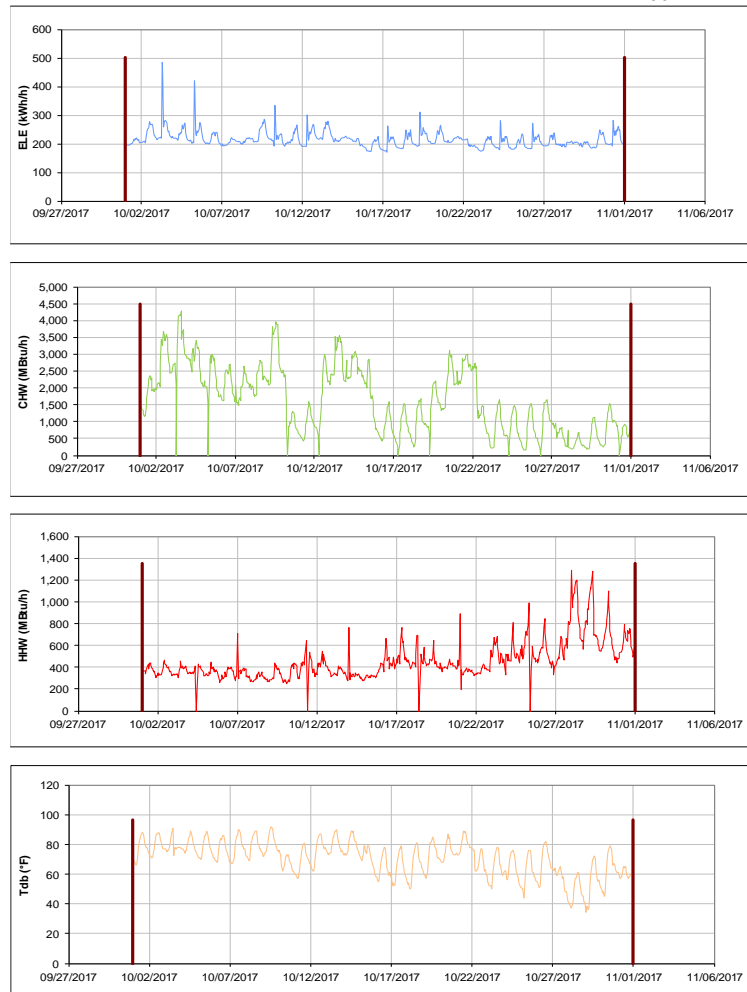


Figure III-201 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas A&M Institute for Preclinical Studies A during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**National Center for Therapeutics Manufacturing** TAMU / BLDG #: 1910



Figure III-202 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for National Center for Therapeutics Manufacturing during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Multi-Species Research Building

TAMU / BLDG #: 1911

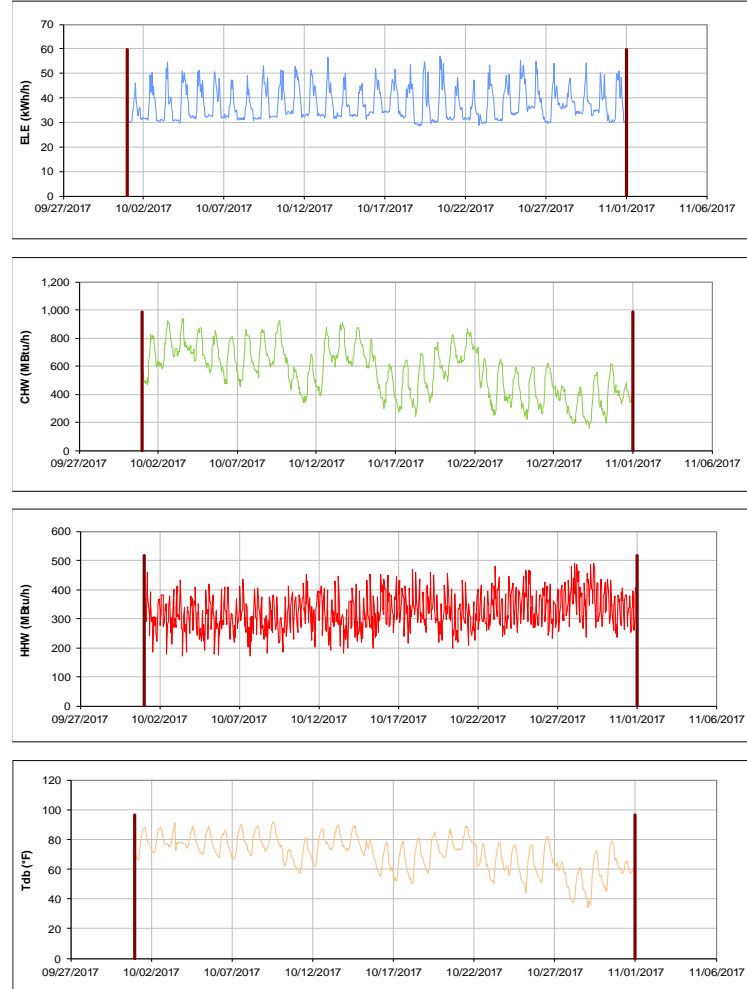


Figure III-203 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Multi-Species Research Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

NCTM Manufacturing Building

TAMU / BLDG #: 10226

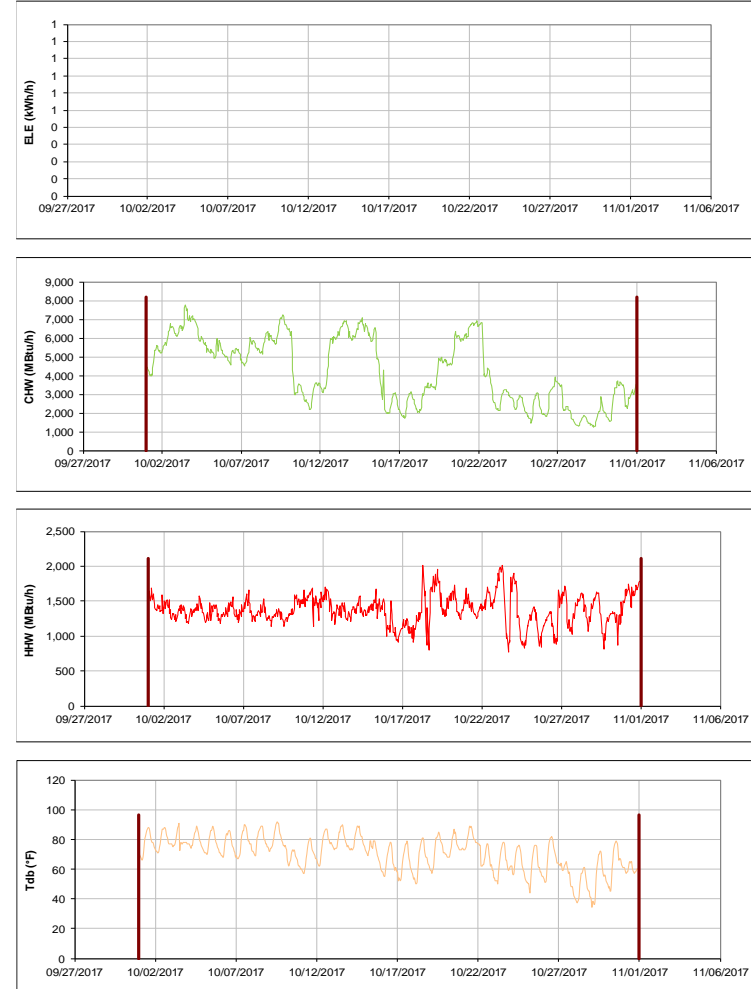


Figure III-204 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for NCTM Manufacturing Building during the Month of October 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

## **IV. Energy Balance Plots for October 2017 Consumption**

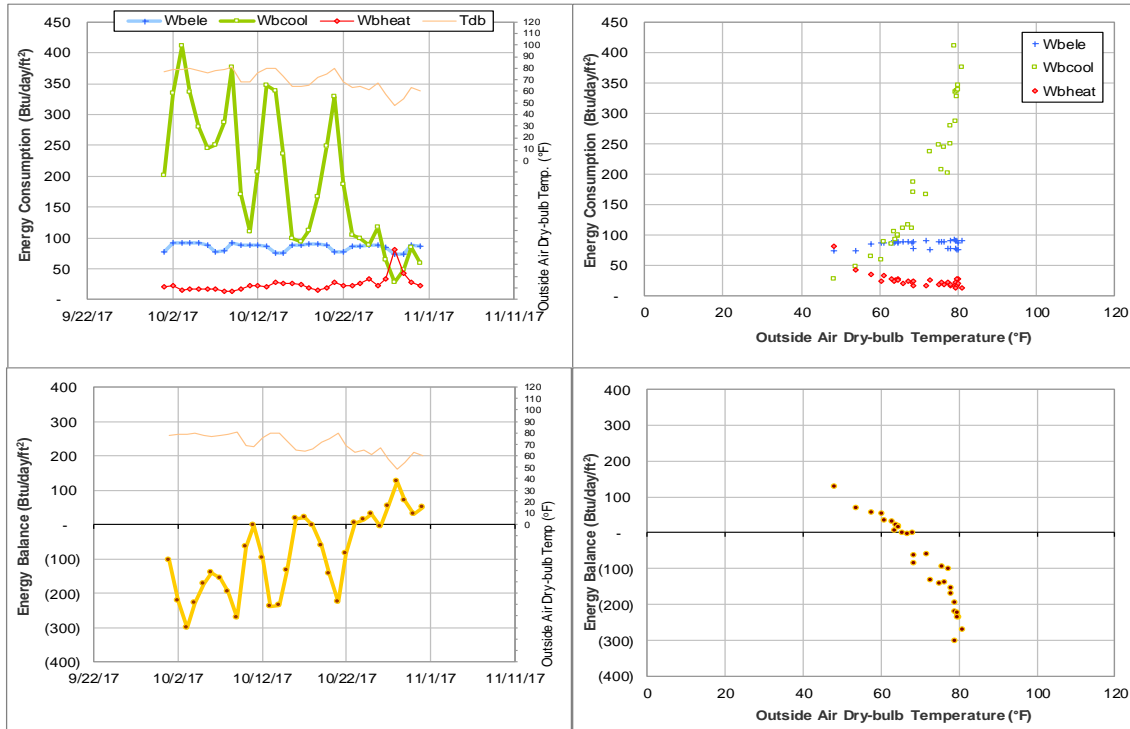


Figure IV-1 Emerging Technologies Building TAMU BLDG # 270 Energy Balance Plot during October 2017

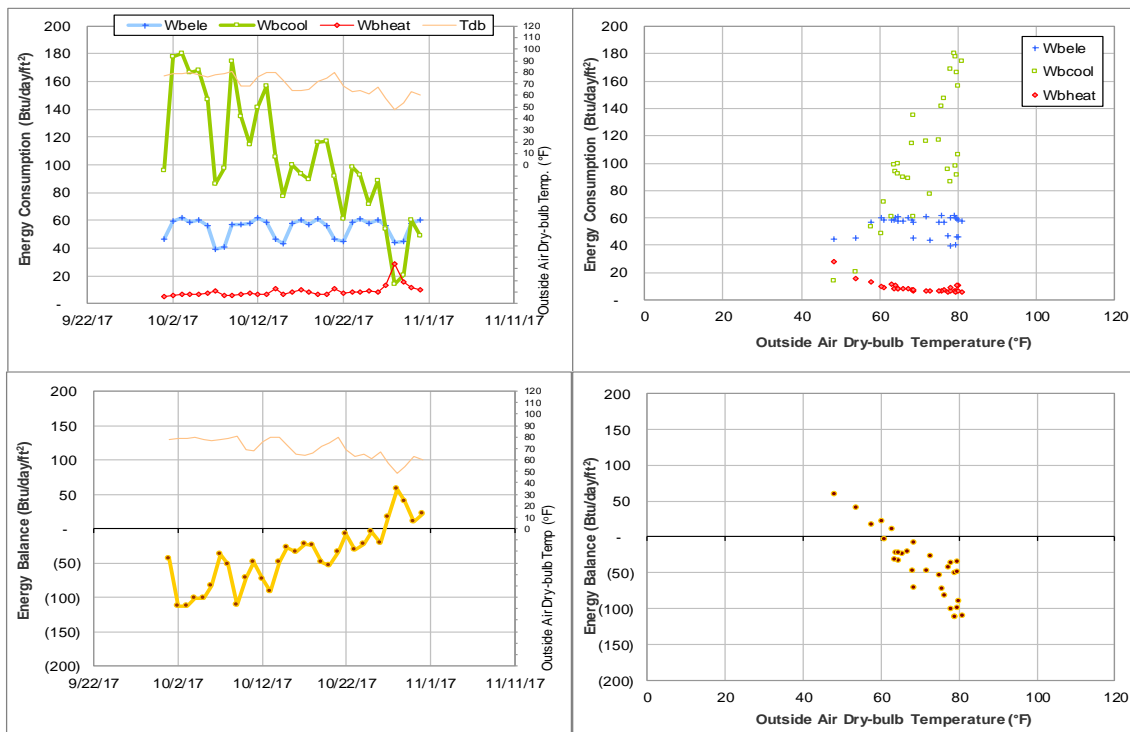


Figure IV-2 Liberal Arts and Arts & Humanities Building TAMU BLDG # 275 Energy Balance Plot during October 2017

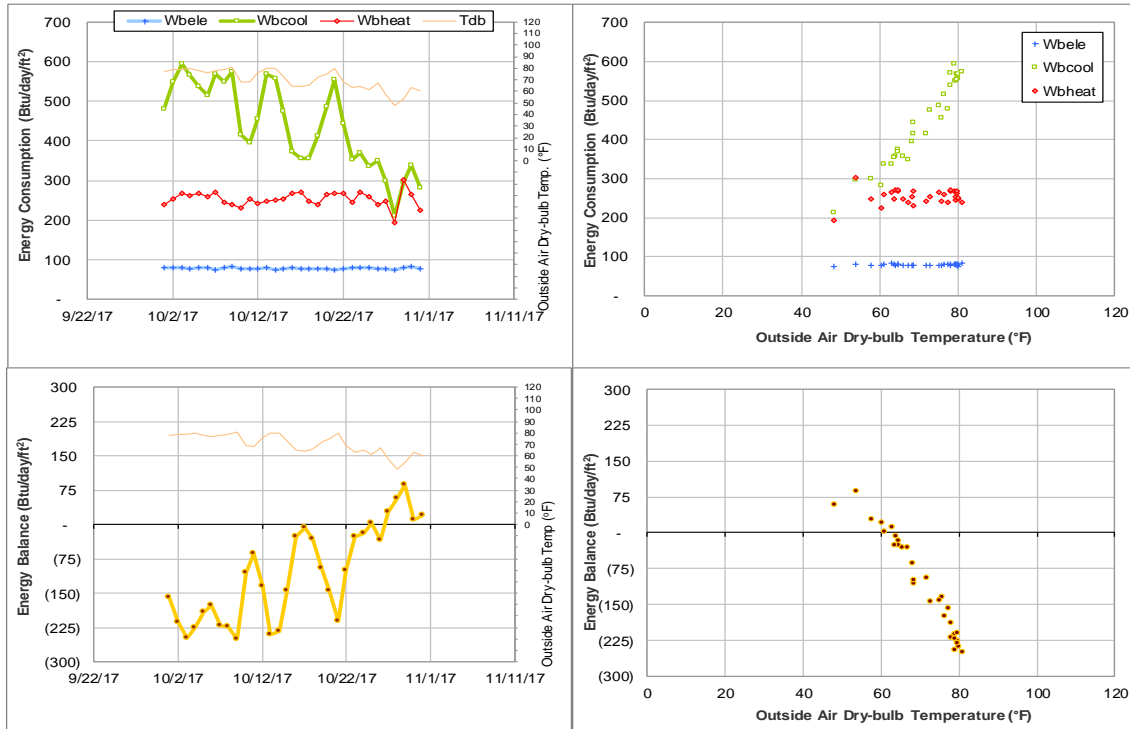


Figure IV-3 Wells Residence Hall TAMU BLDG # 290 Energy Balance Plot during October 2017

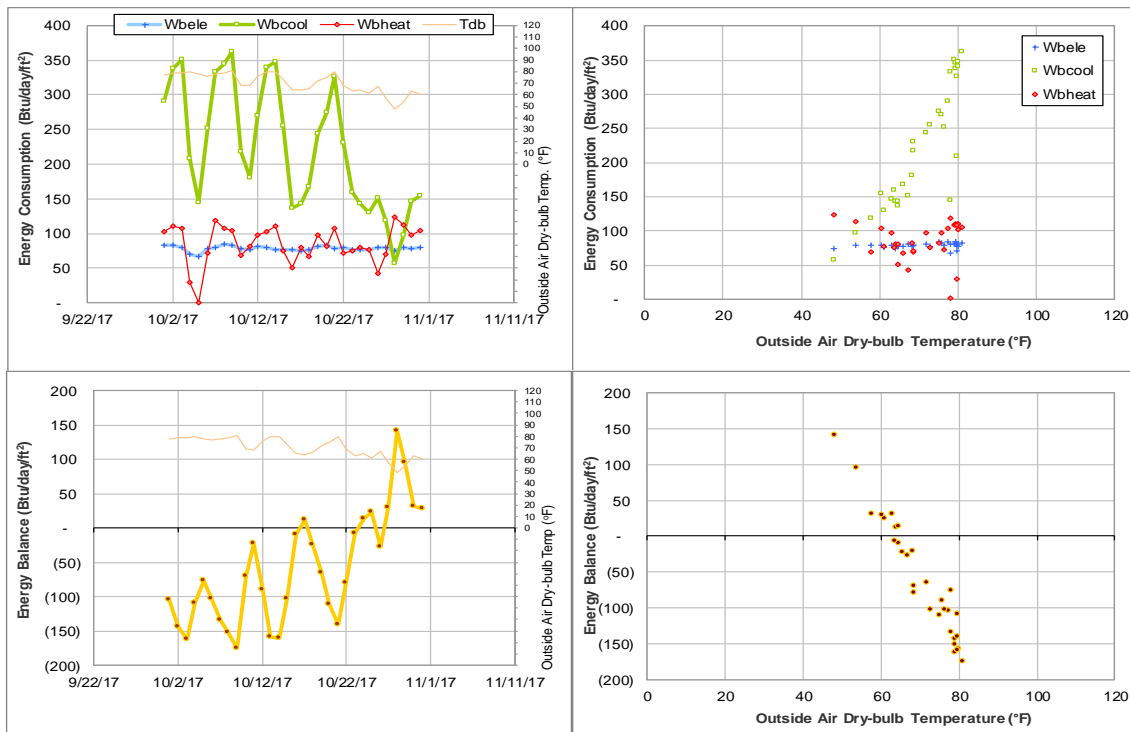


Figure IV-4 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during October 2017

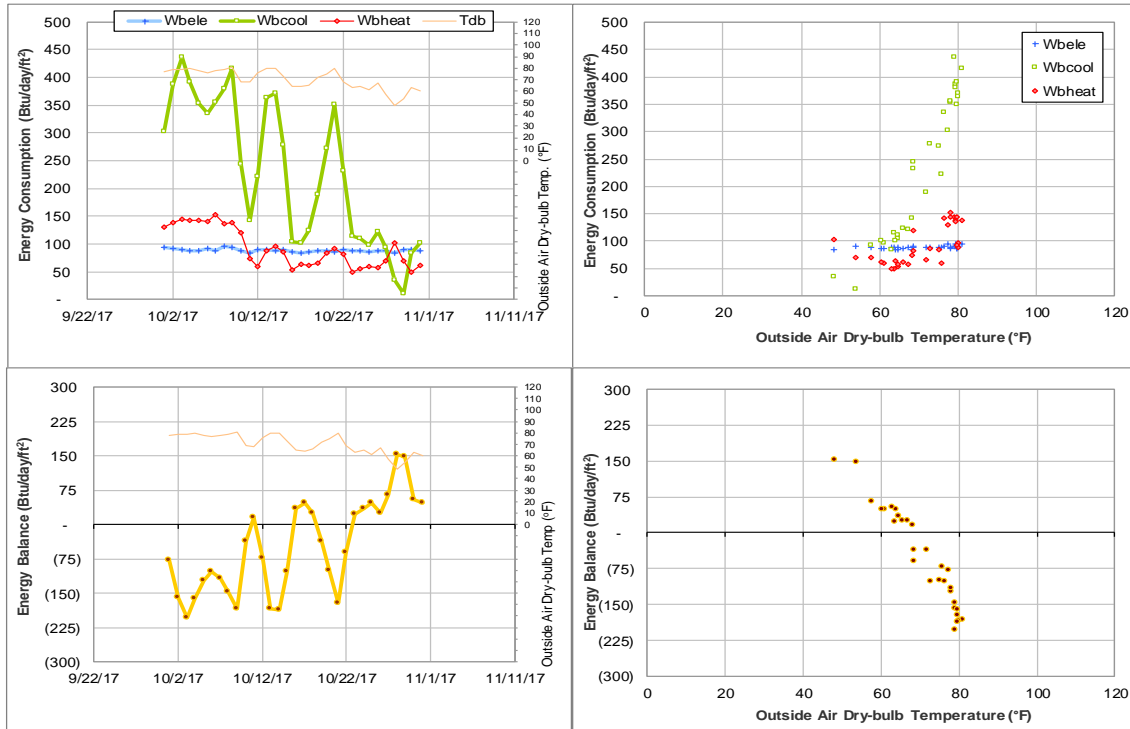


Figure IV-5 Eppright Residence Hall TAMU BLDG # 292 Energy Balance Plot during October 2017

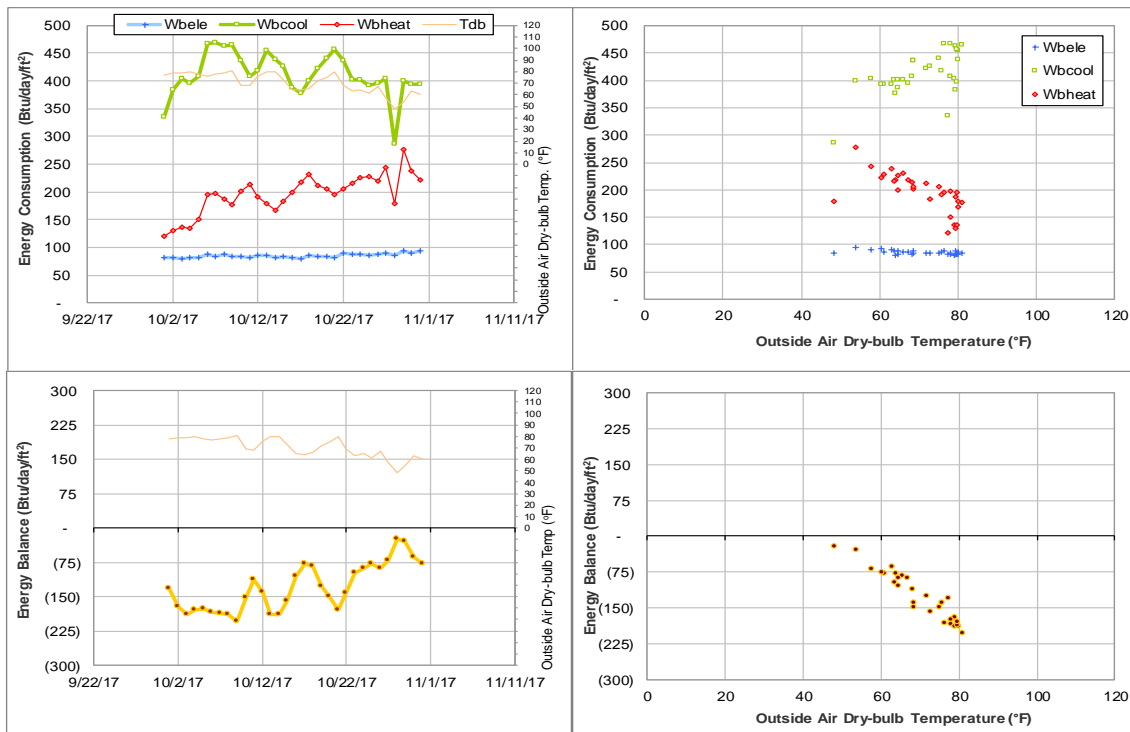


Figure IV-6 Appelt Residence Hall TAMU BLDG # 293 Energy Balance Plot during October 2017

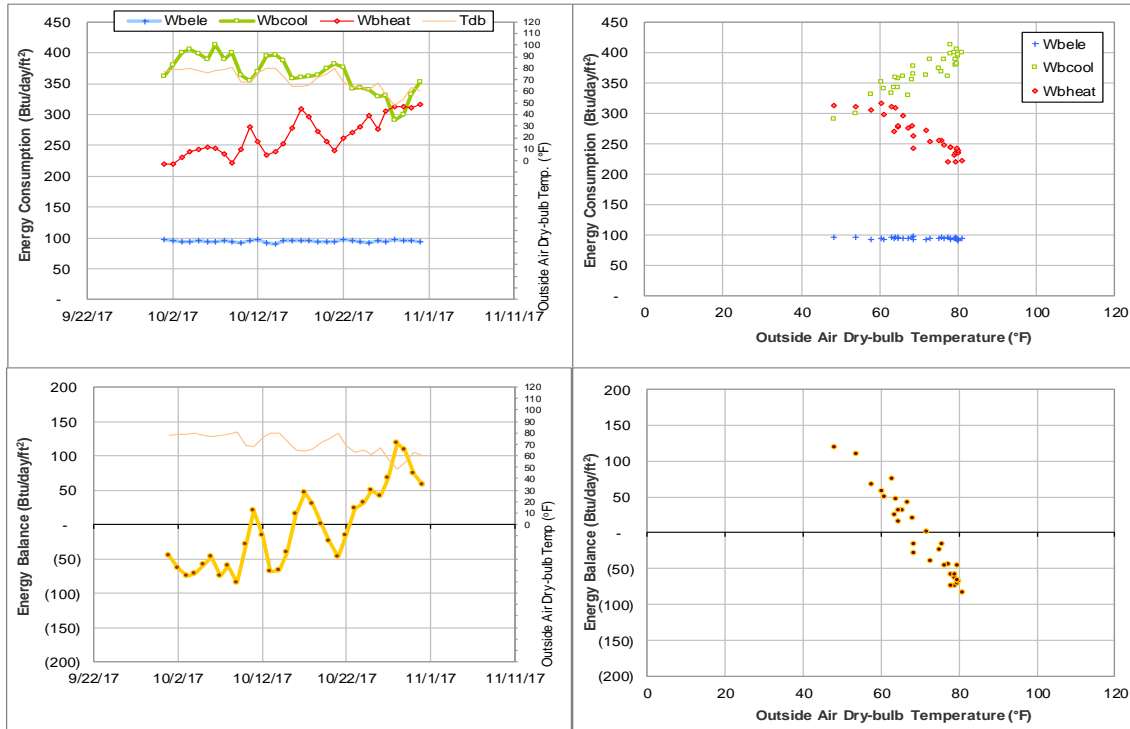


Figure IV-7 Lechner Residence Hall TAMU BLDG # 294 Energy Balance Plot during October 2017

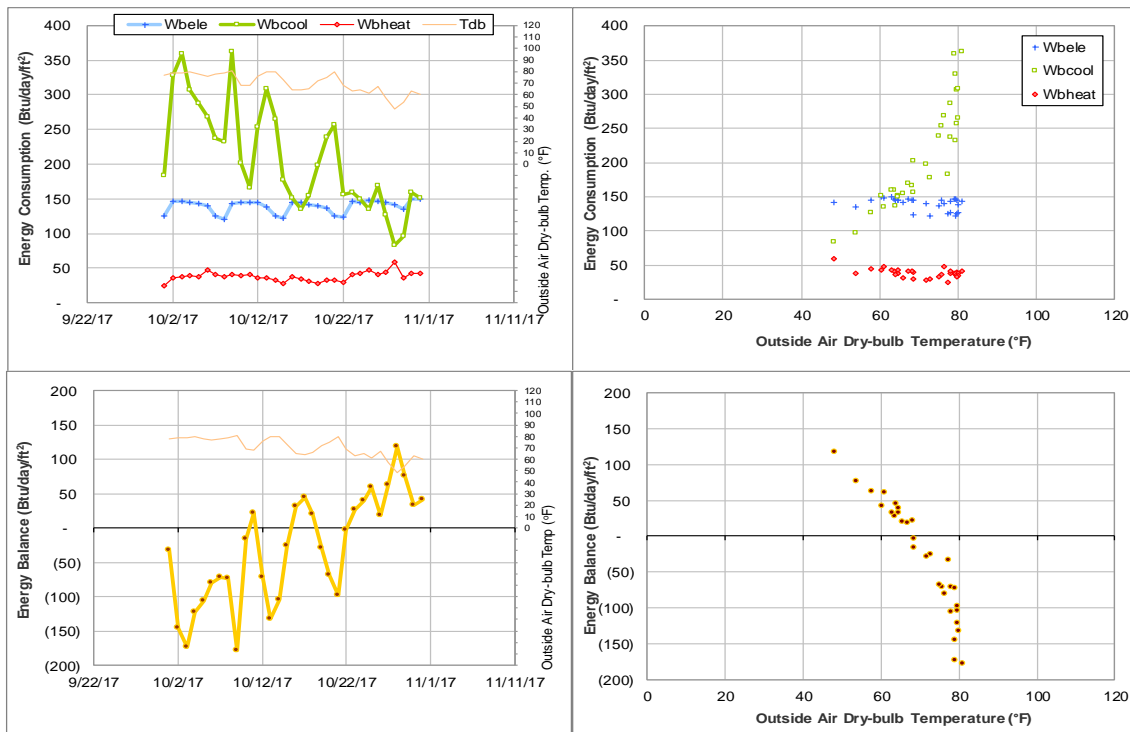


Figure IV-8 Mitchell Inst. for Fundamental Phys & Astronomy TAMU BLDG # 296 Energy Balance Plot during October 2017

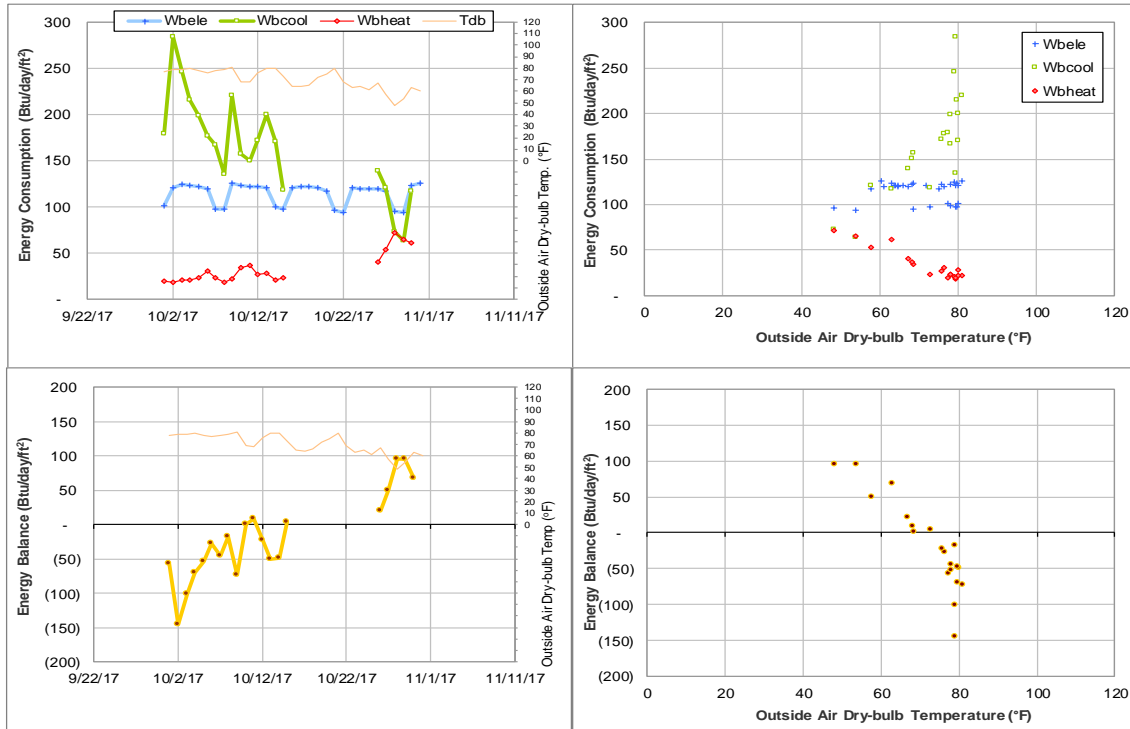


Figure IV-9 CE TTI Office & Lab Building TAMU BLDG # 325 Energy Balance Plot during October 2017

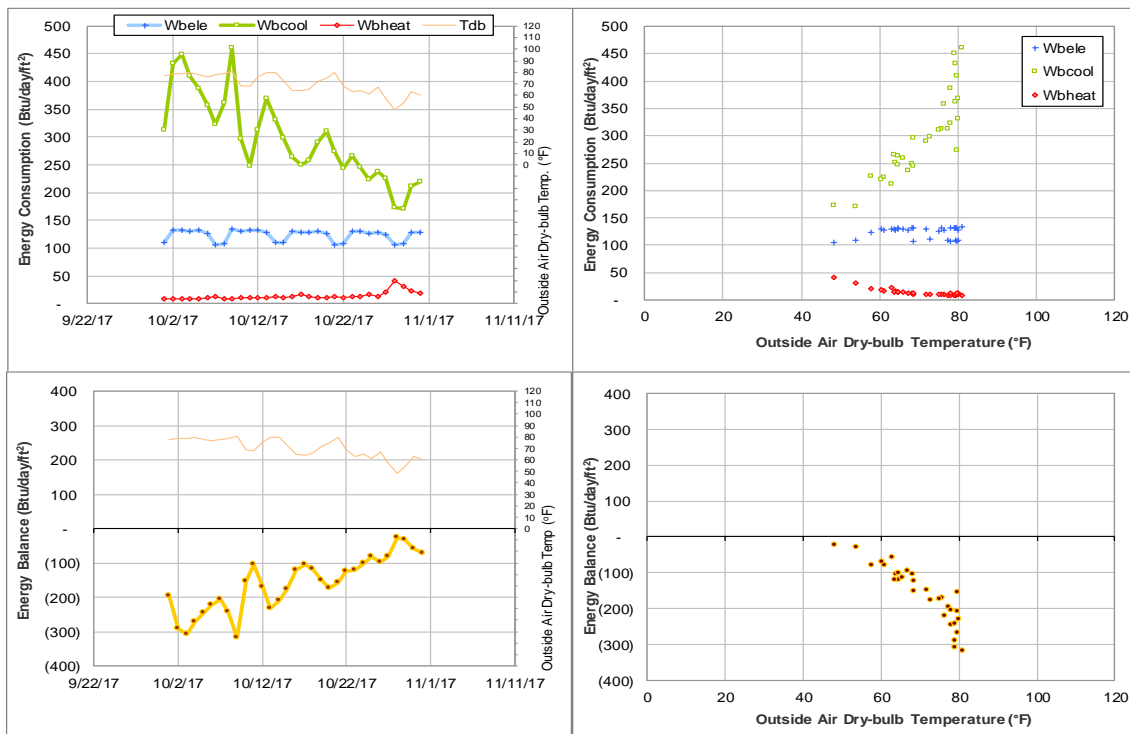


Figure IV-10 Bright Aerospace Building TAMU BLDG # 353 Energy Balance Plot during October 2017



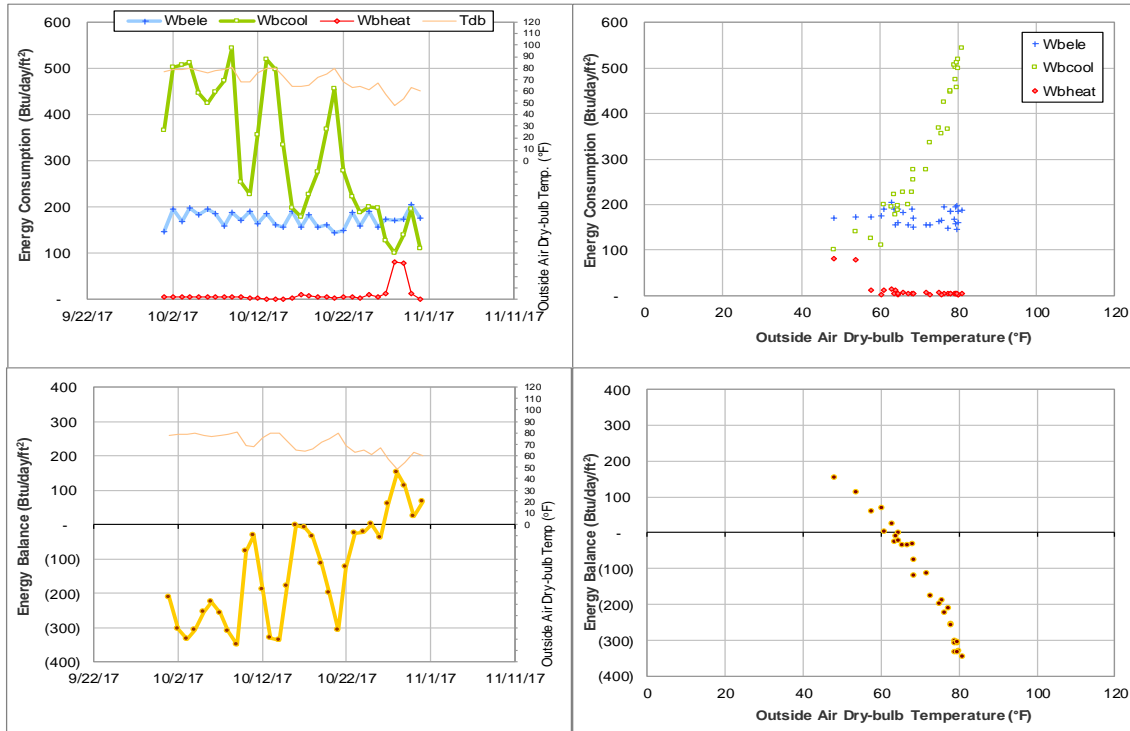


Figure IV-11 Davis Football Player Development Center TAMU BLDG # 358 Energy Balance Plot during October 2017

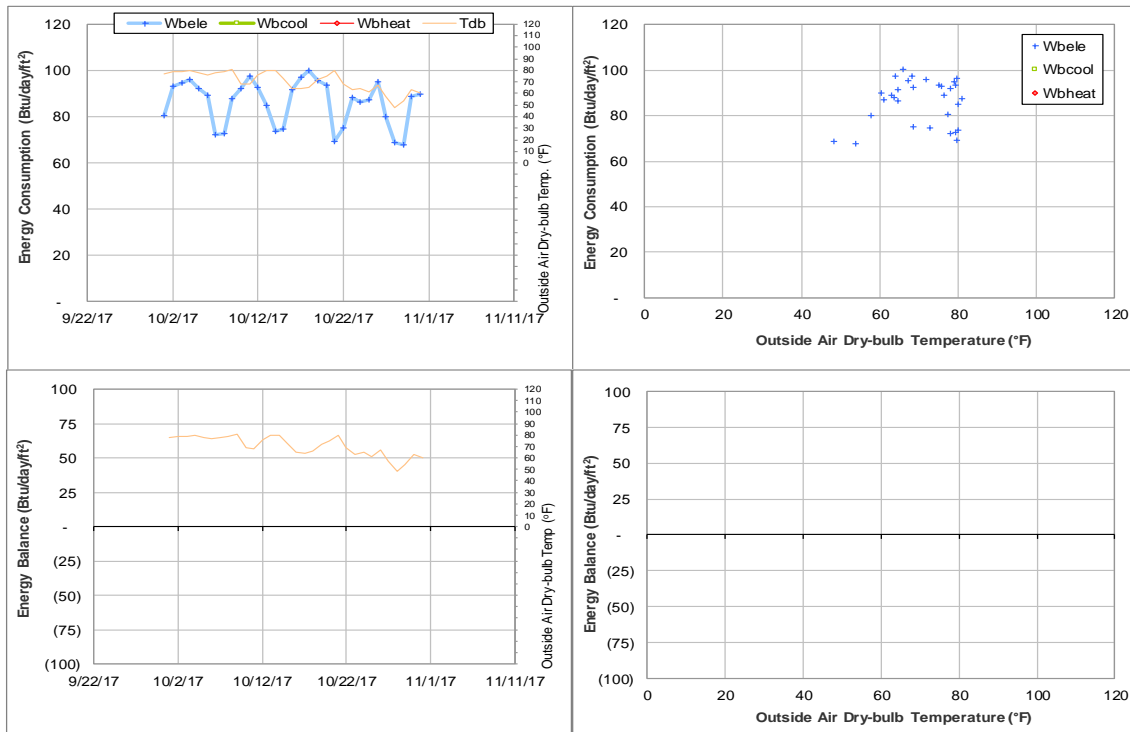


Figure IV-12 Architecture Building B TAMU BLDG # 359 Energy Balance Plot during October 2017

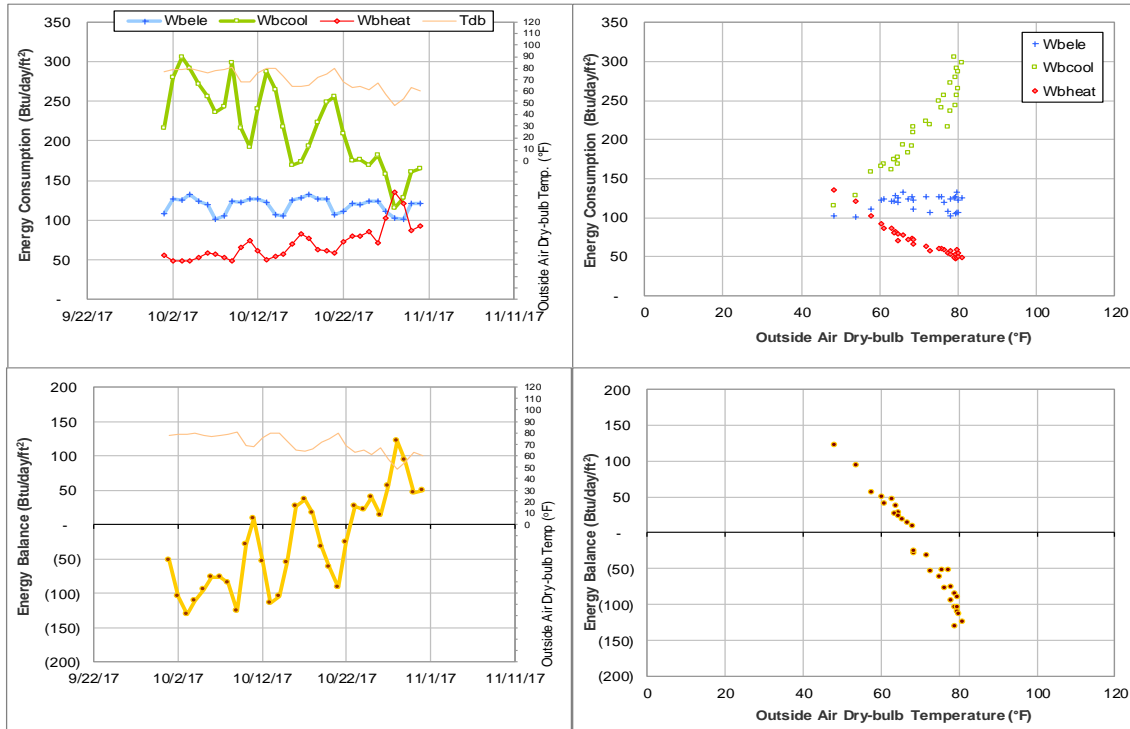


Figure IV-13 Architecture Building B&C TAMU BLDG # 359 Energy Balance Plot during October 2017

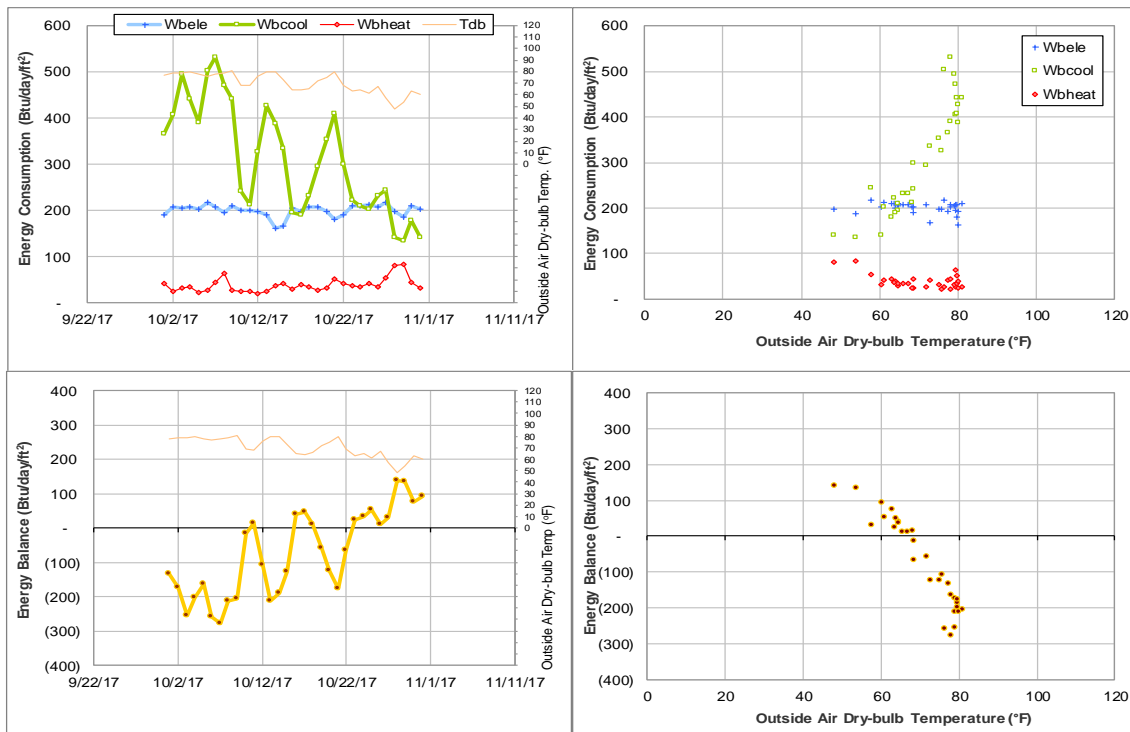


Figure IV-14 Bright Football Complex TAMU BLDG # 361 Energy Balance Plot during October 2017

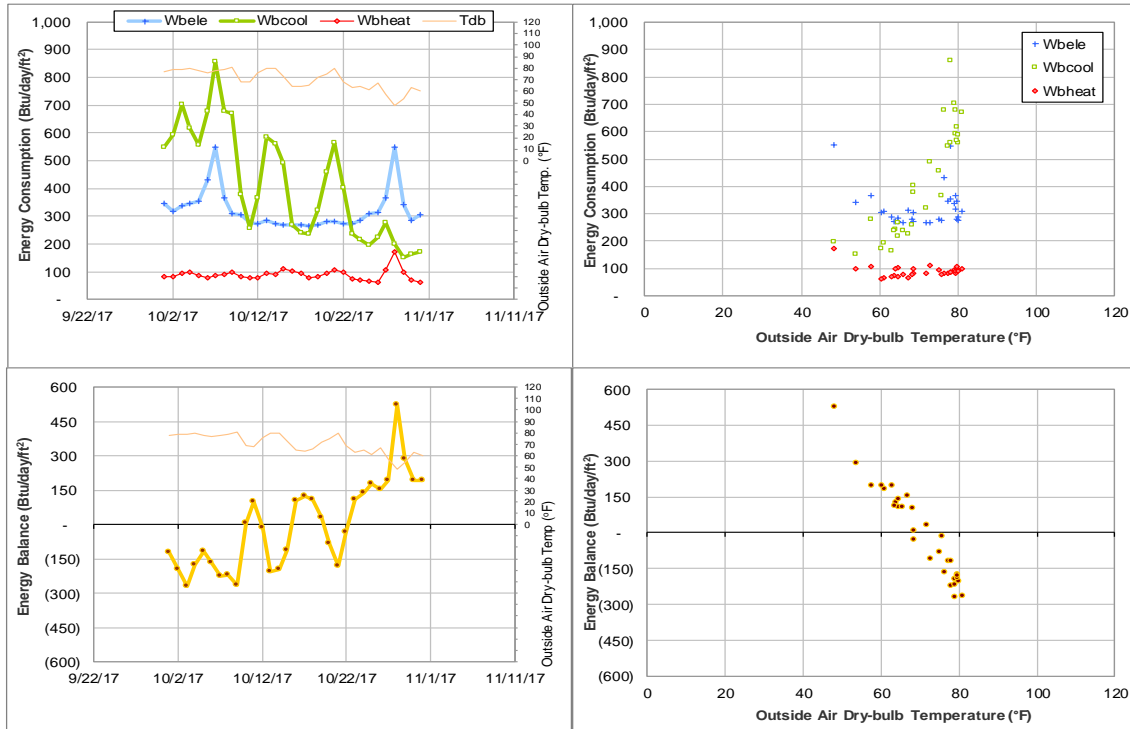


Figure IV-15 Kyle Field TAMU BLDG # 367 Energy Balance Plot during October 2017

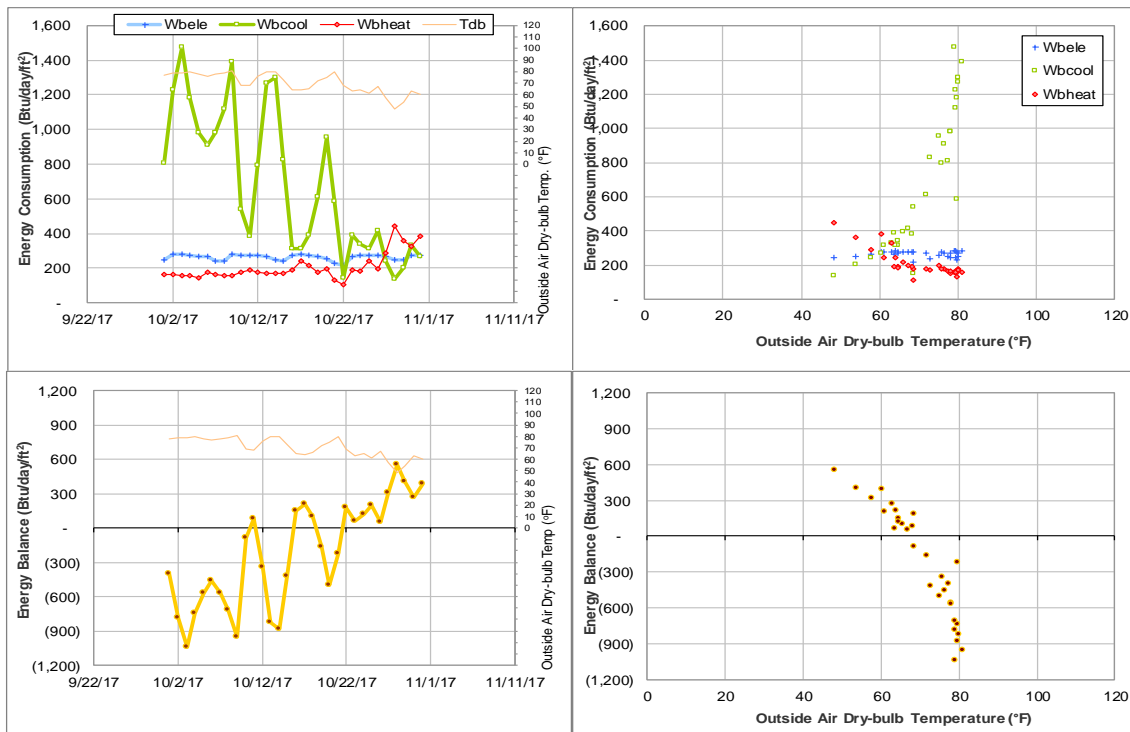


Figure IV-16 Chemistry Building Addition TAMU BLDG # 376 Energy Balance Plot during October 2017

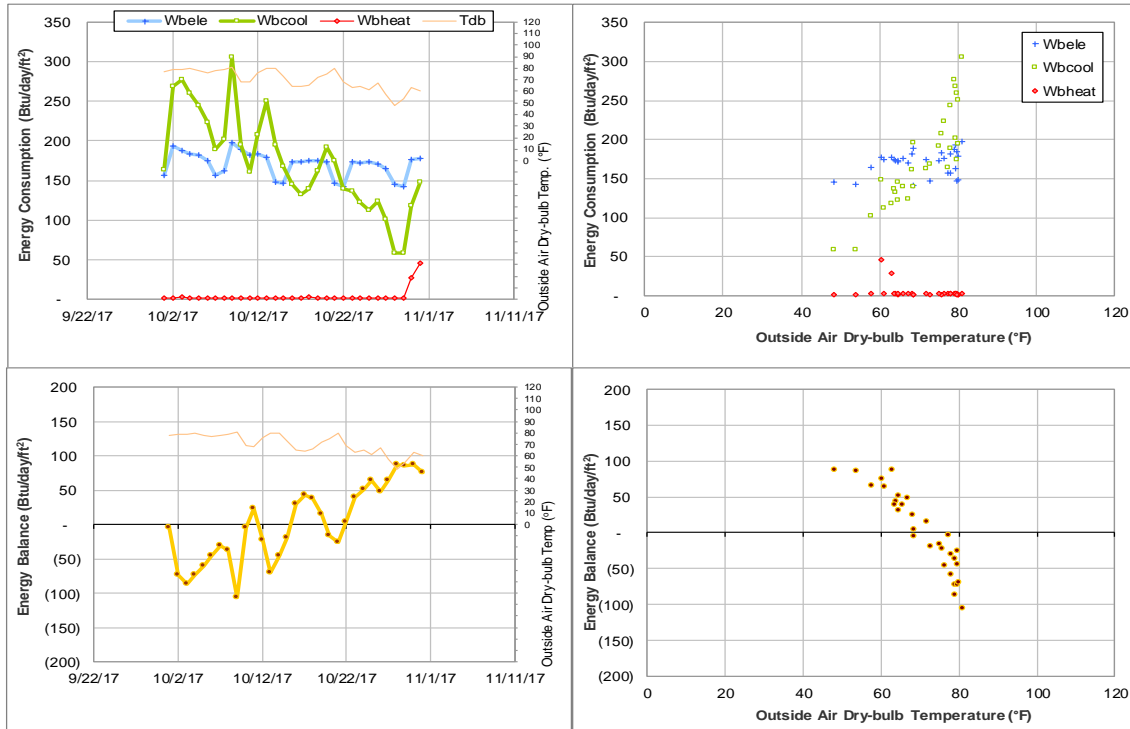


Figure IV-17 Koldus Building TAMU BLDG # 383 Energy Balance Plot during October 2017

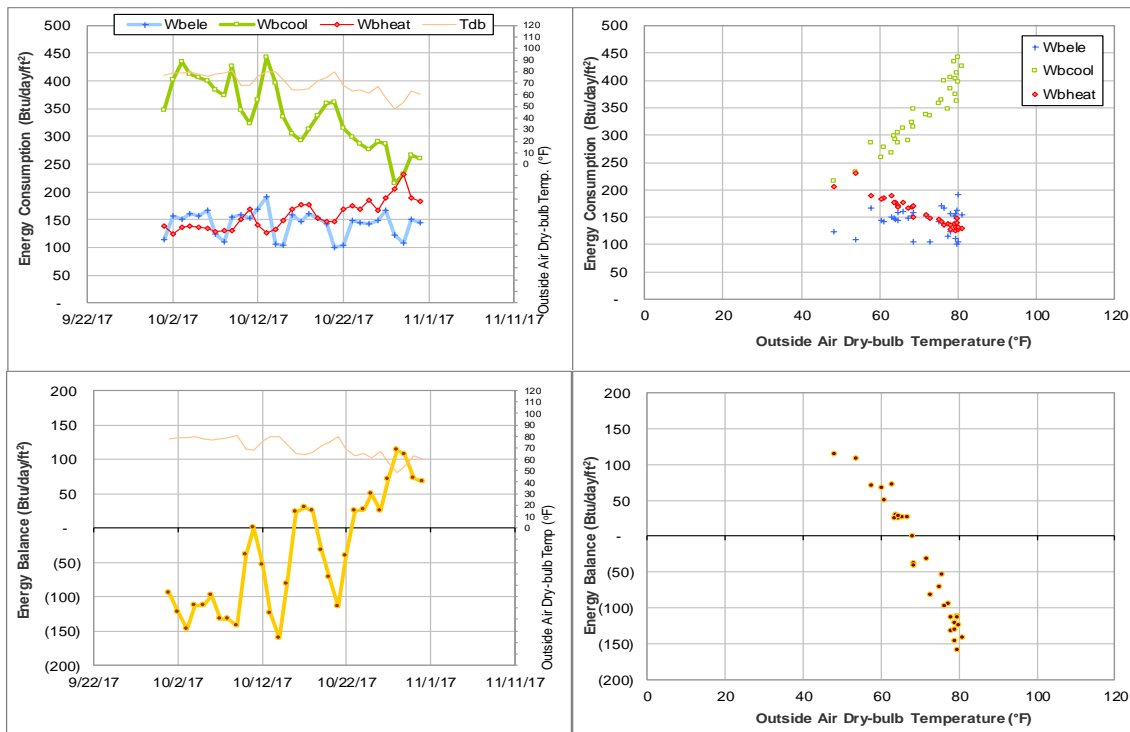


Figure IV-18 Sanders Corps of Cadets Center TAMU BLDG # 384 Energy Balance Plot during October 2017

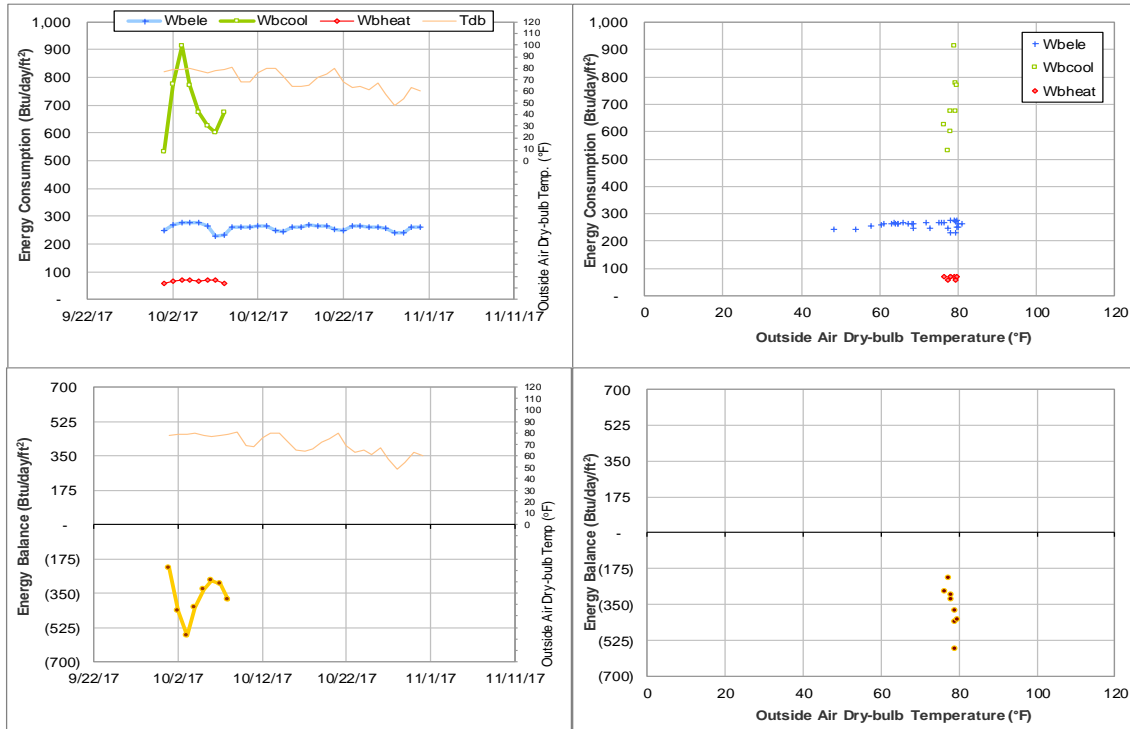


Figure IV-19 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during October 2017

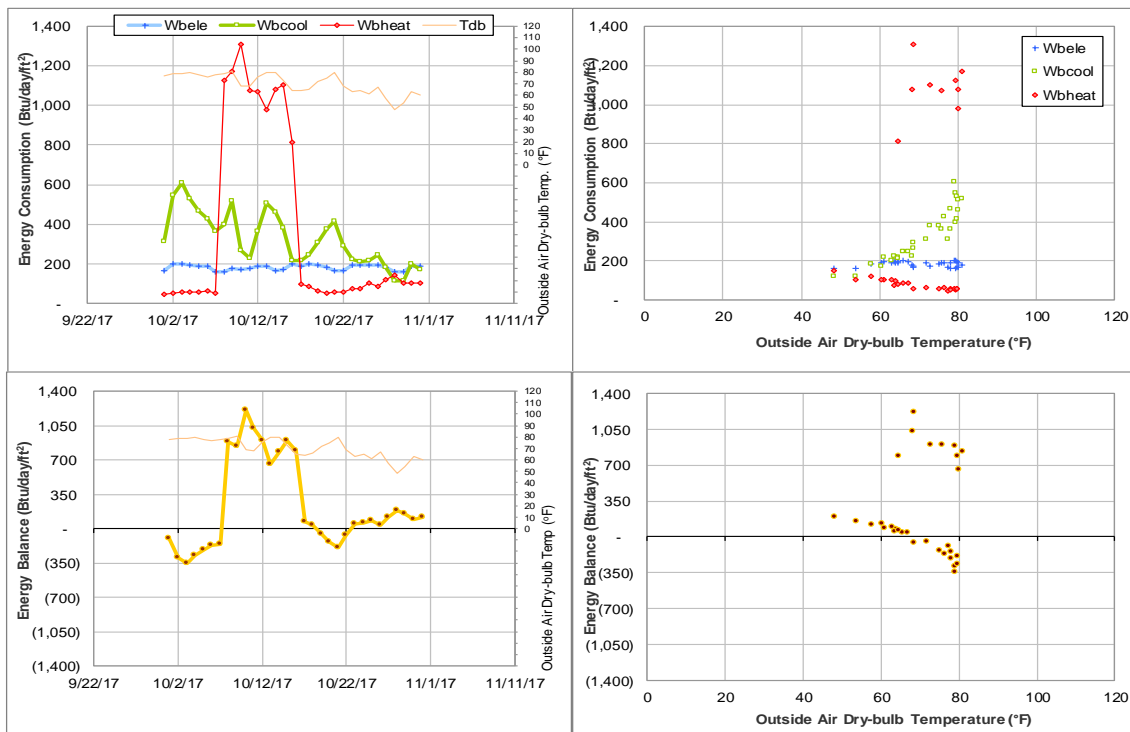


Figure IV-20 Richardson Petroleum Engineering Building TAMU BLDG # 387 Energy Balance Plot during October 2017

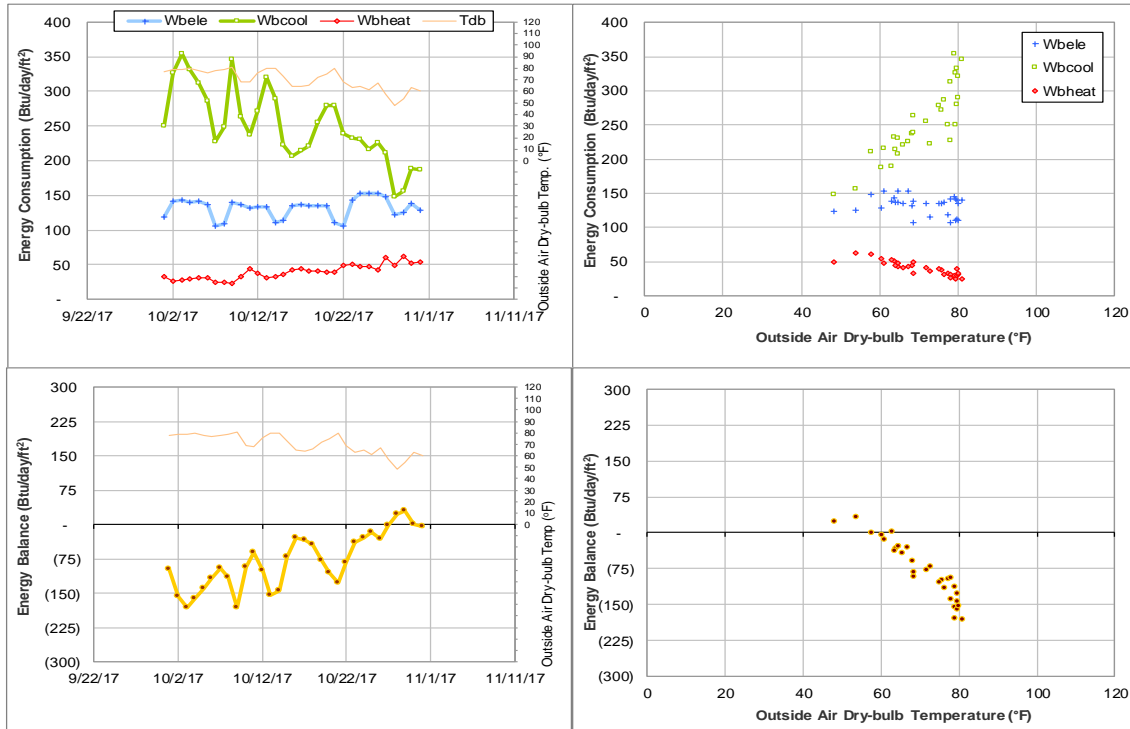


Figure IV-21 James J. Cain 51 and Mechanical Engineering Office Building TAMU BLDG # 391 Energy Balance Plot during October 2017

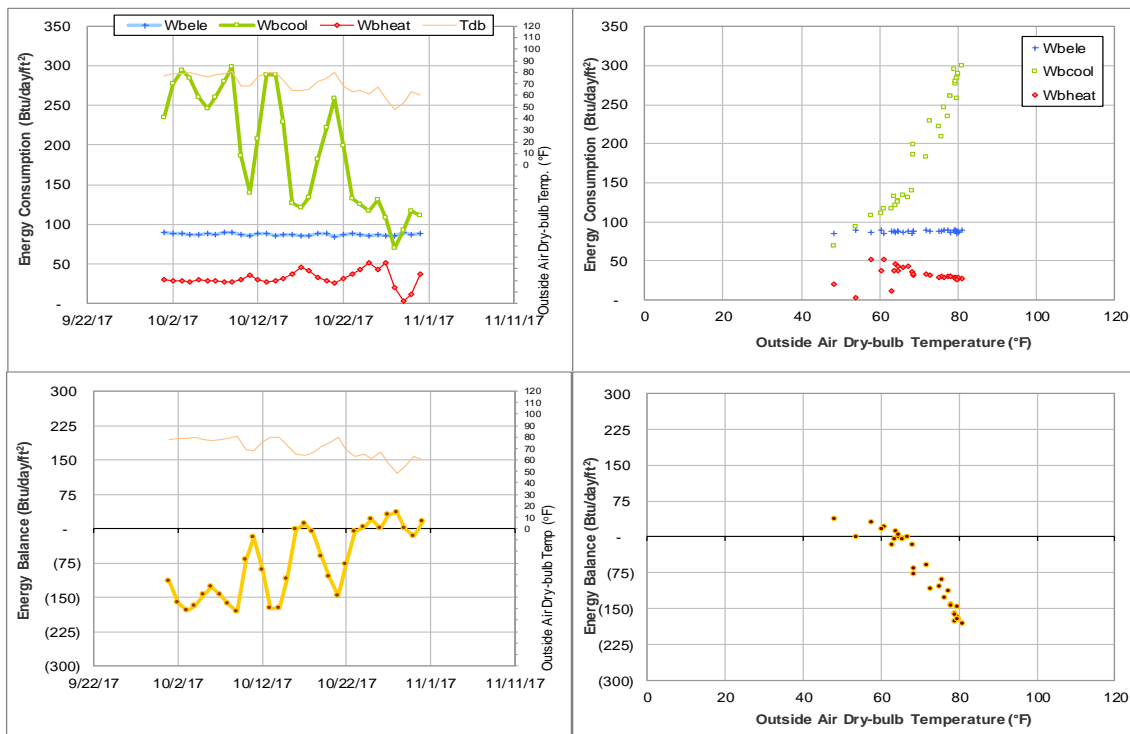


Figure IV-22 Underwood Residence Hall TAMU BLDG # 394 Energy Balance Plot during October 2017

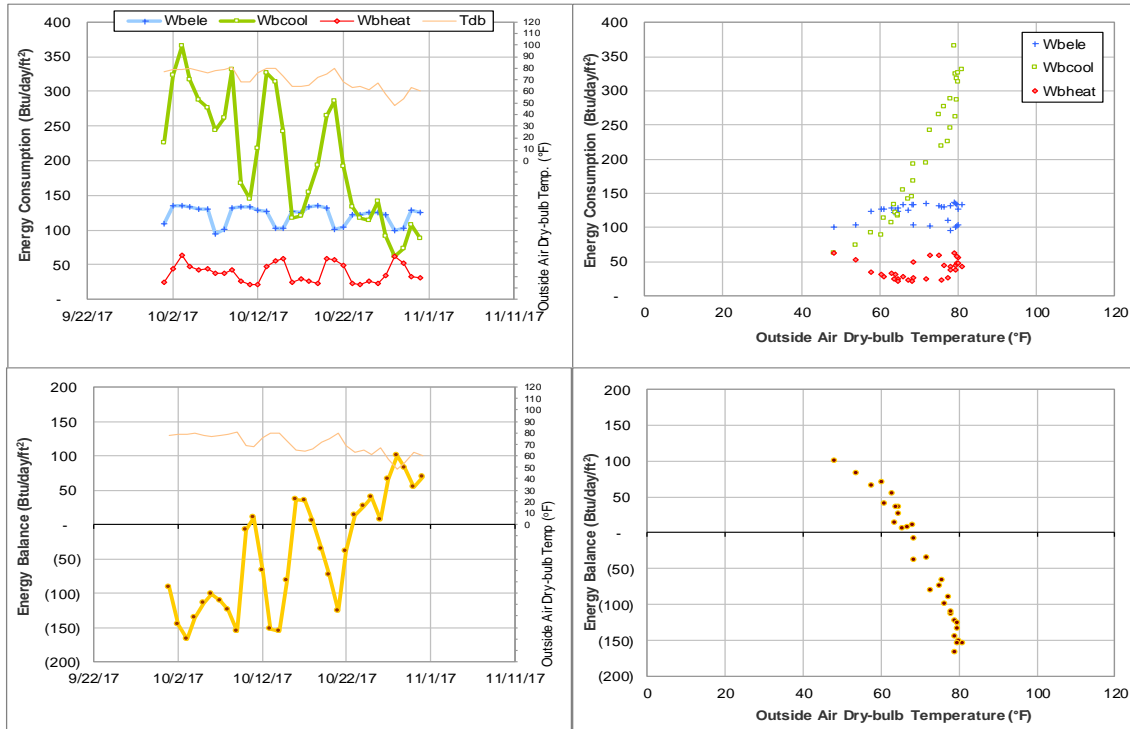


Figure IV-23 Langford Architecture Center Building A TAMU BLDG # 398 Energy Balance Plot during October 2017

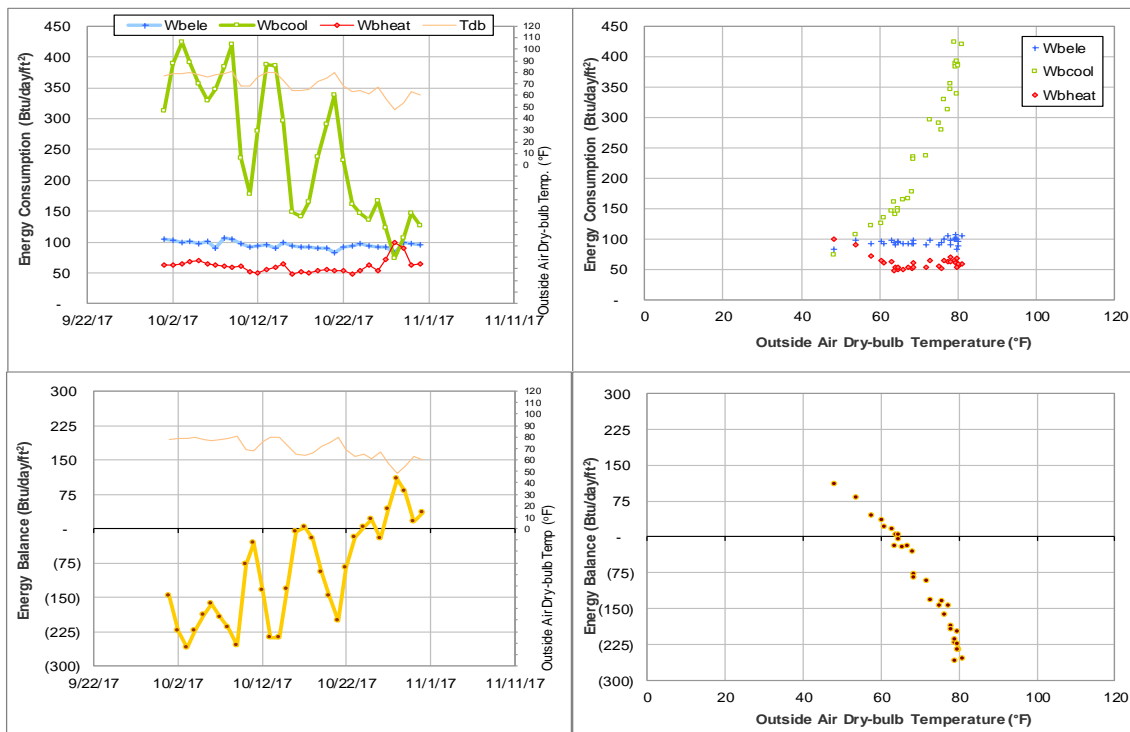


Figure IV-24 Spence Hall, Briggs Hall, and Ash II LLC TAMU BLDG # 400, #402, and 1405 Energy Balance Plot during October 2017

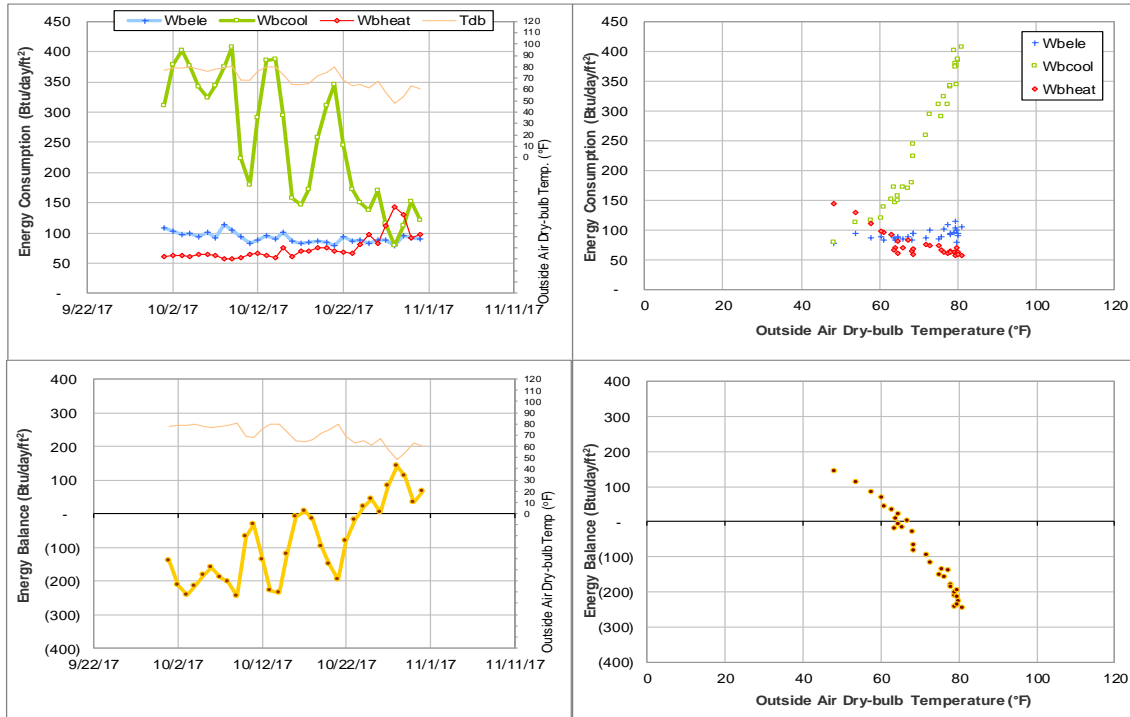


Figure IV-25 Spence Hall Dorm 1 TAMU BLDG # 400 Energy Balance Plot during October 2017

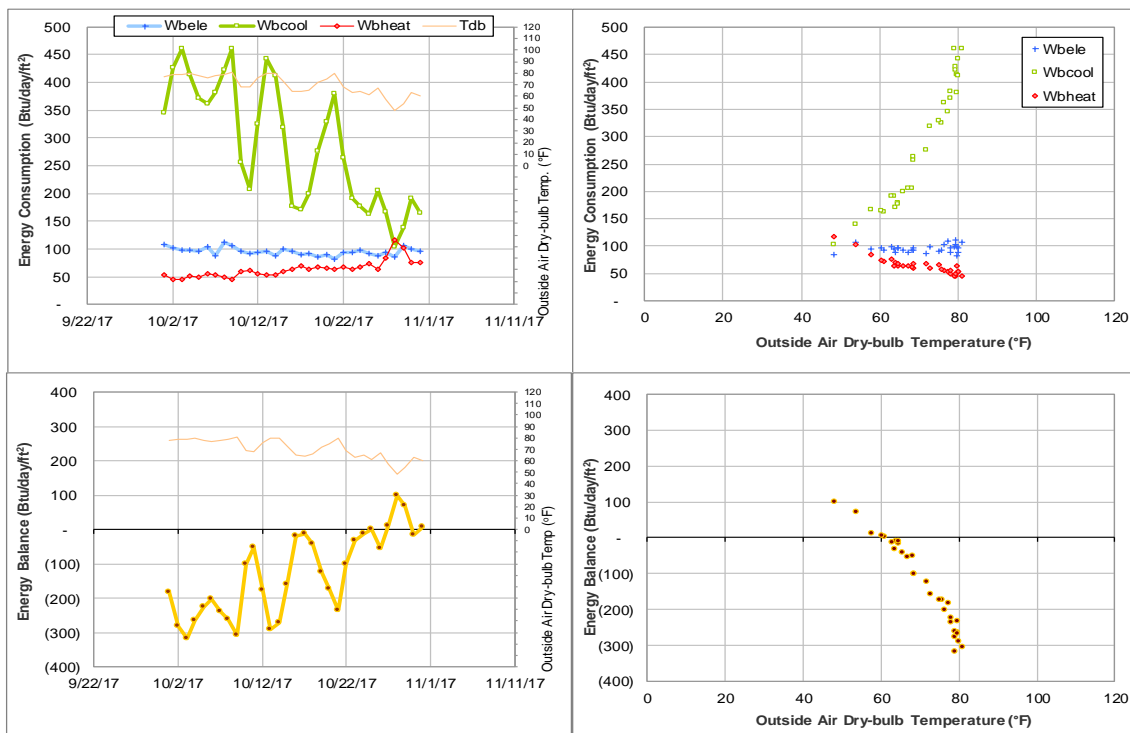


Figure IV-26 Briggs Hall Dorm 3 TAMU BLDG # 402 Energy Balance Plot during October 2017



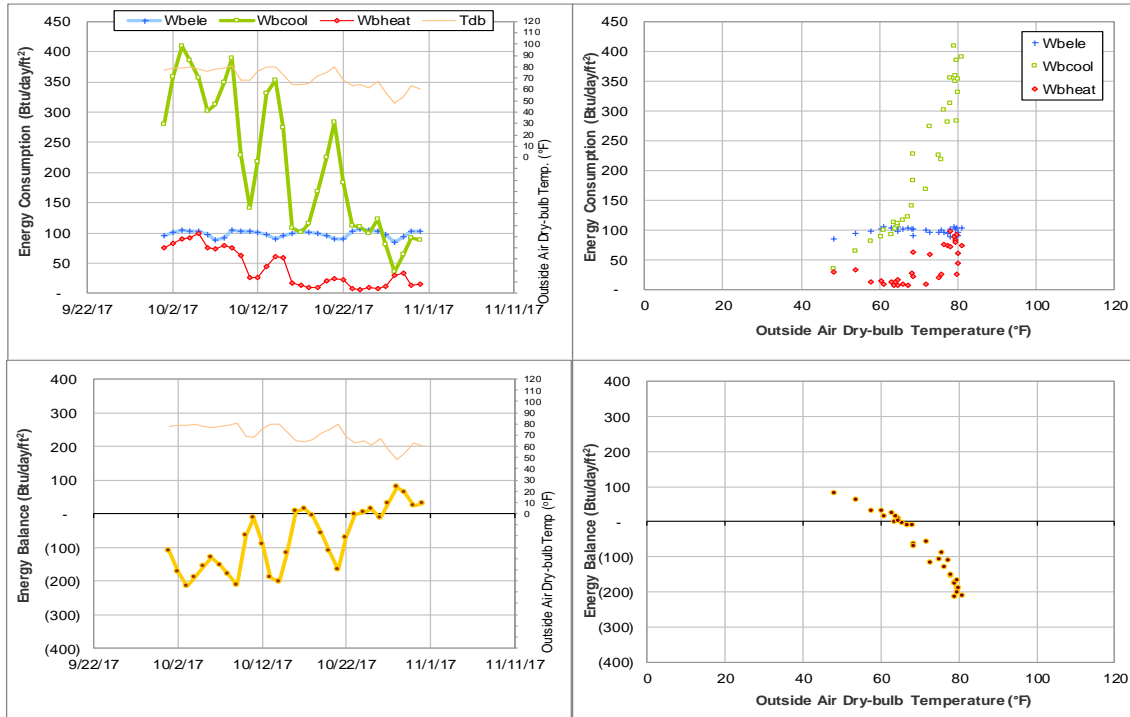


Figure IV-27 Ash II LLC TAMU BLDG # 1405 Energy Balance Plot during October 2017

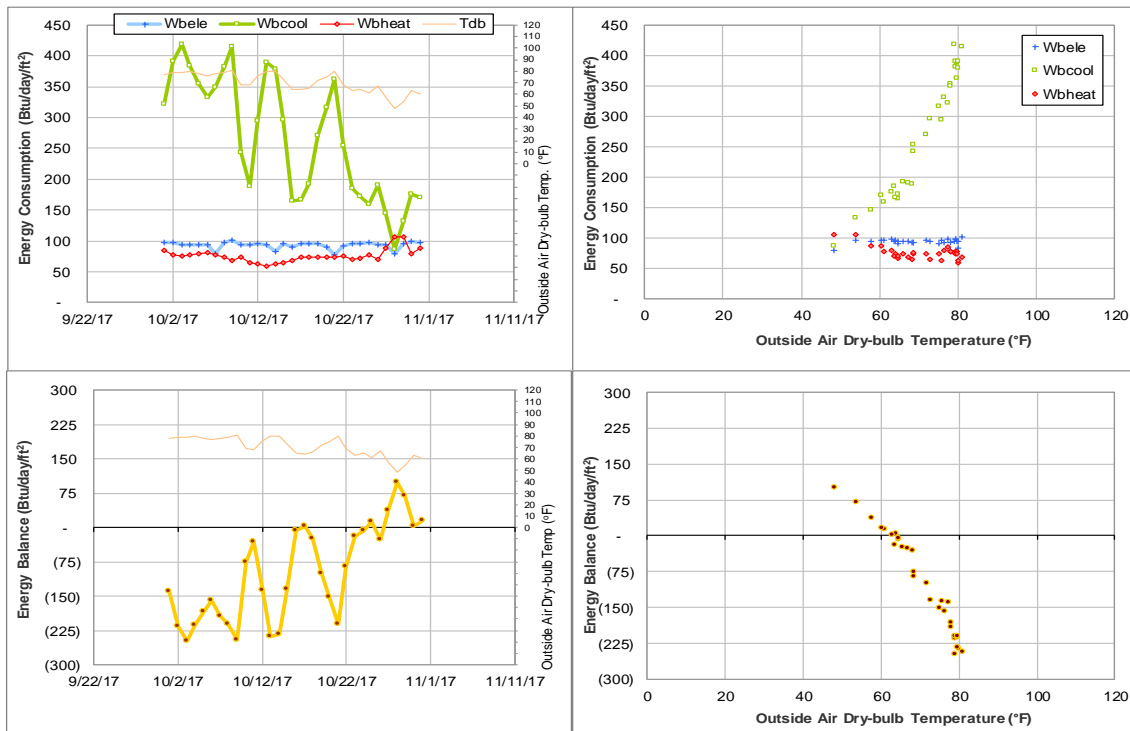


Figure IV-28 Kiest Hall, Fountain Hall, and Plank LLC TAMU BLDG # 401, #403, and #1404 Energy Balance Plot during October 2017

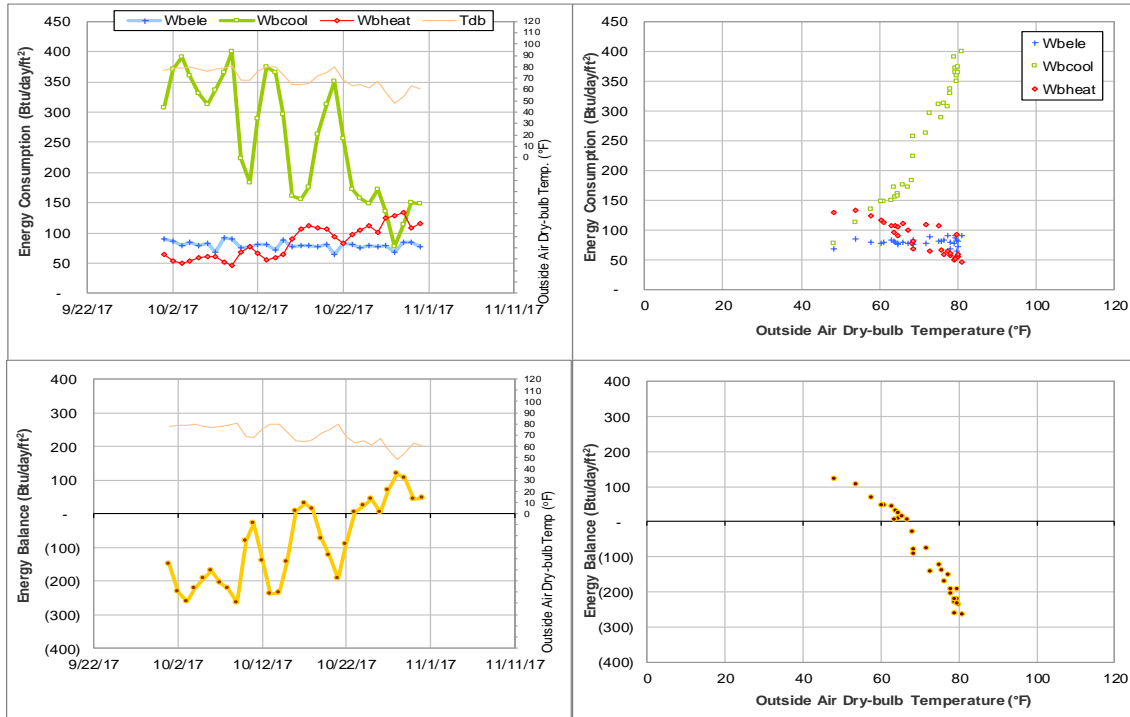


Figure IV-29 Kiest Hall Dorm 2 TAMU BLDG # 401 Energy Balance Plot during October 2017

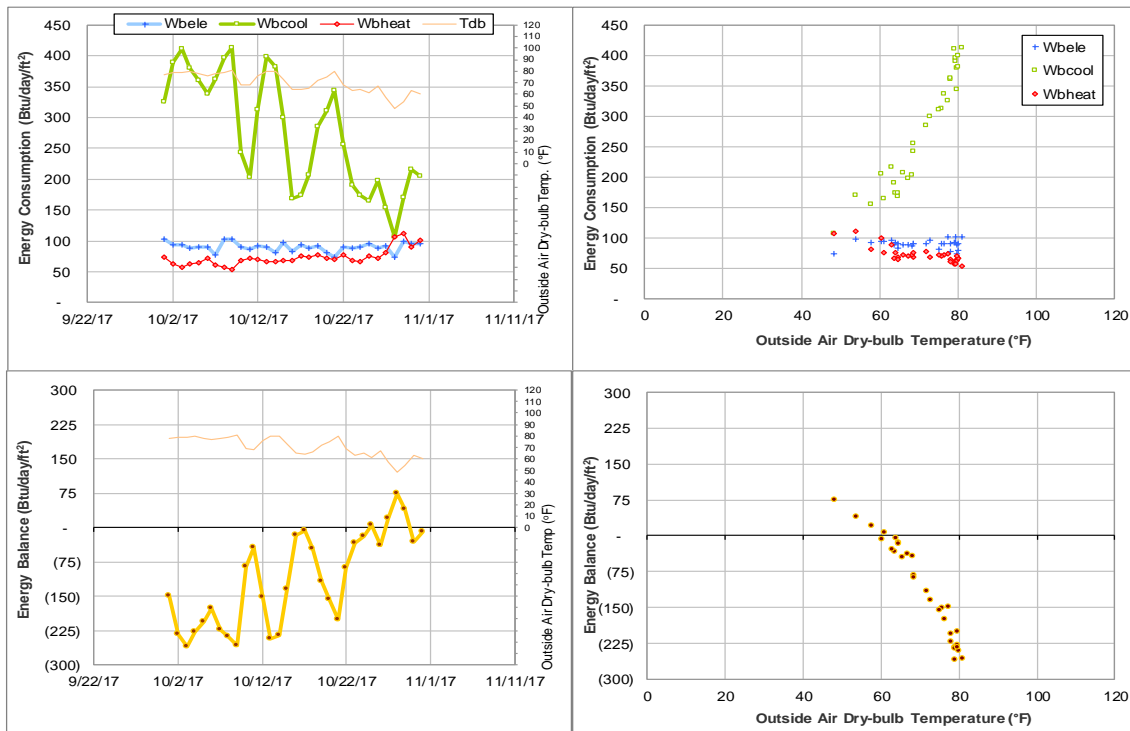


Figure IV-30 Fountain Hall Dorm 4 TAMU BLDG # 403 Energy Balance Plot during October 2017

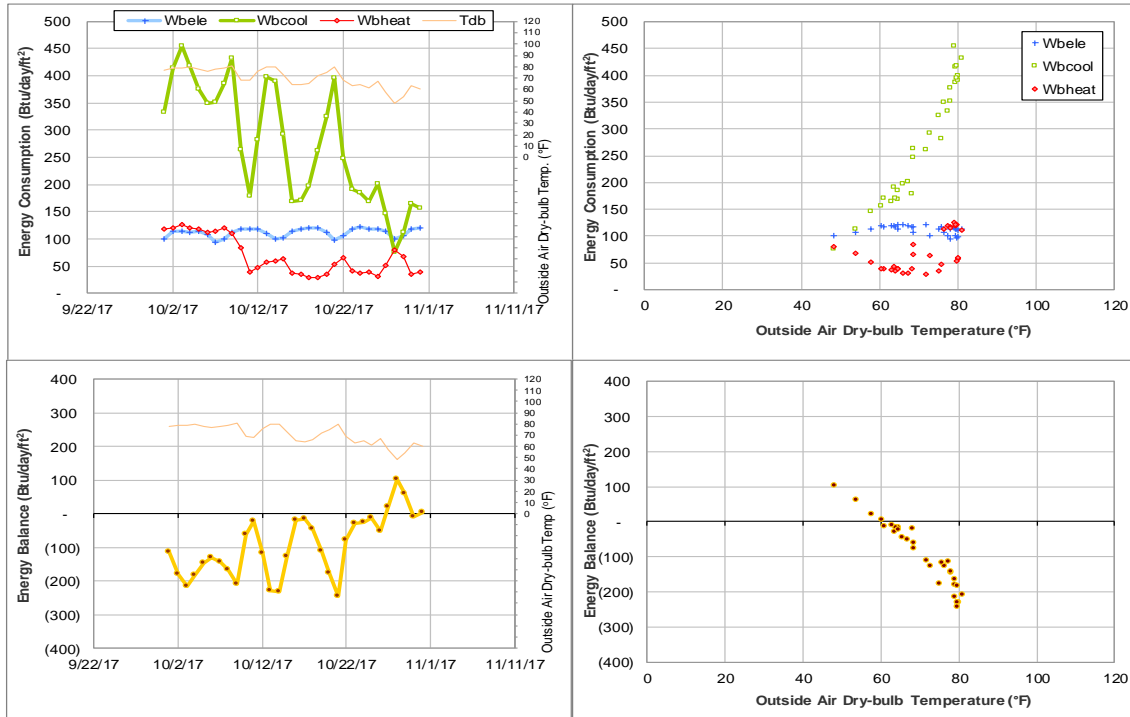


Figure IV-31 Plank LLC TAMU BLDG # 1404 Energy Balance Plot during October 2017

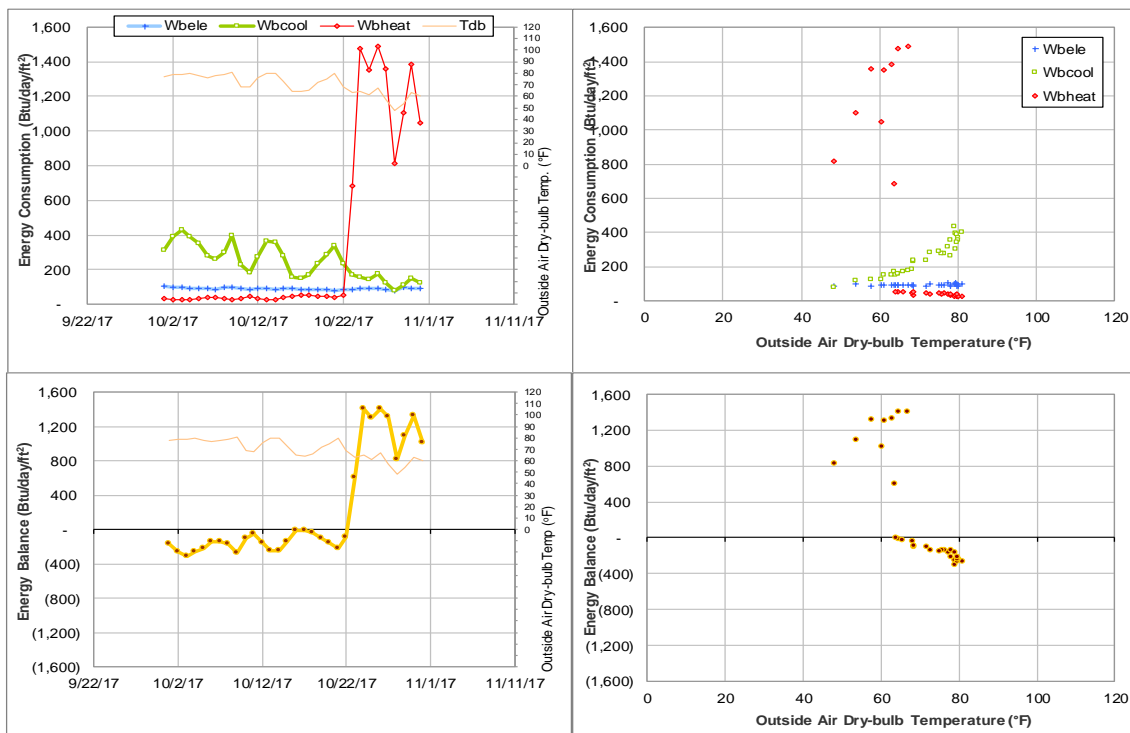


Figure IV-32 Gainer Hall, Leonard Hall and Ash LLC TAMU BLDG # 404, #406, and #1403 Energy Balance Plot during October 2017

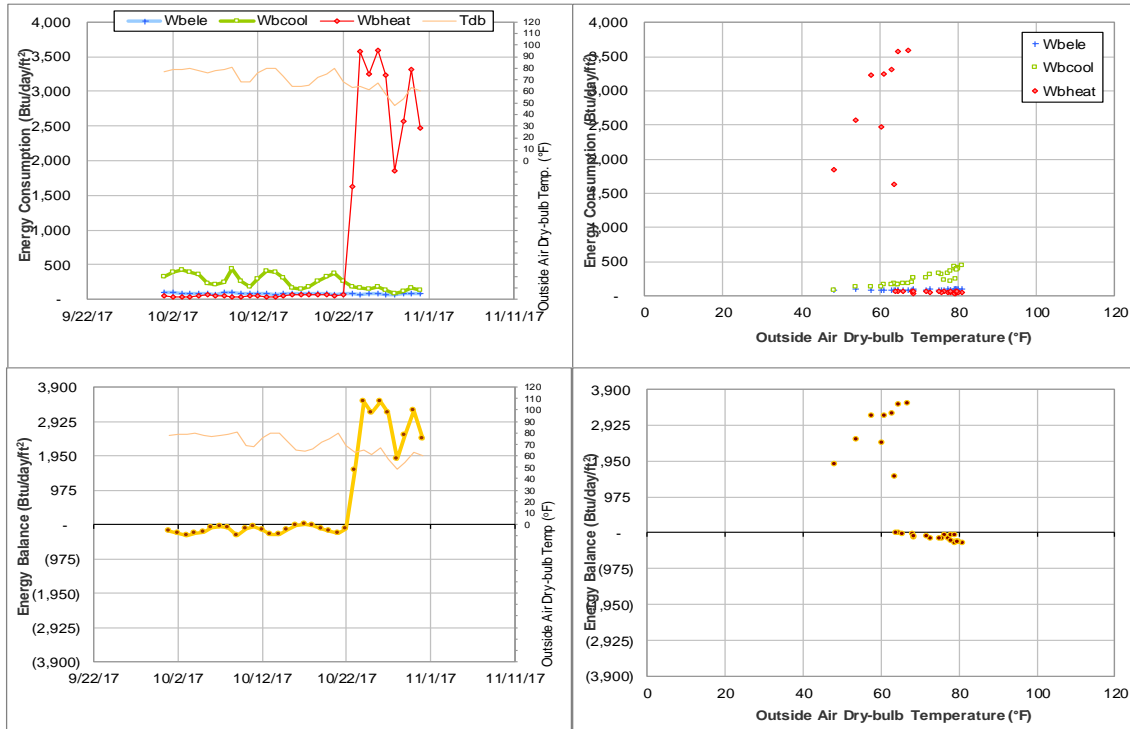


Figure IV-33 Gainer Hall Dorm 5 TAMU BLDG # 404 Energy Balance Plot during October 2017

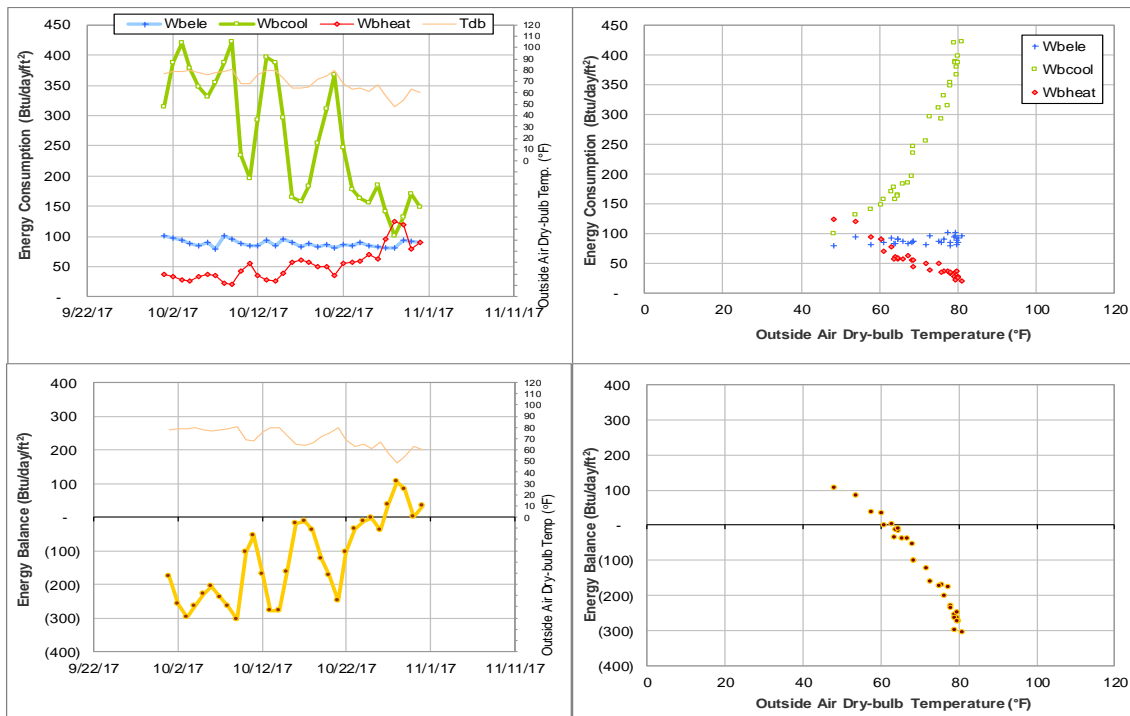


Figure IV-34 Leonard Hall - Dorm 7 TAMU BLDG # 406 Energy Balance Plot during October 2017

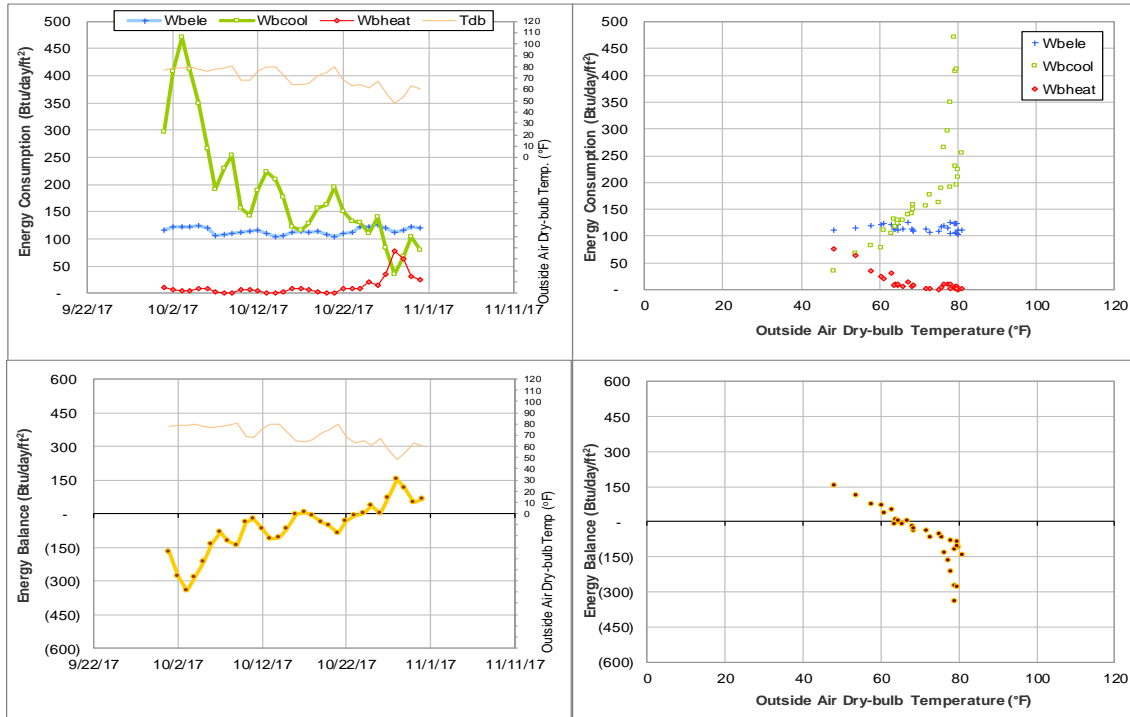


Figure IV-35 H. Grady Ash, Jr. '58 Leadership Learning Center TAMU BLDG # 1403 Energy Balance Plot during October 2017

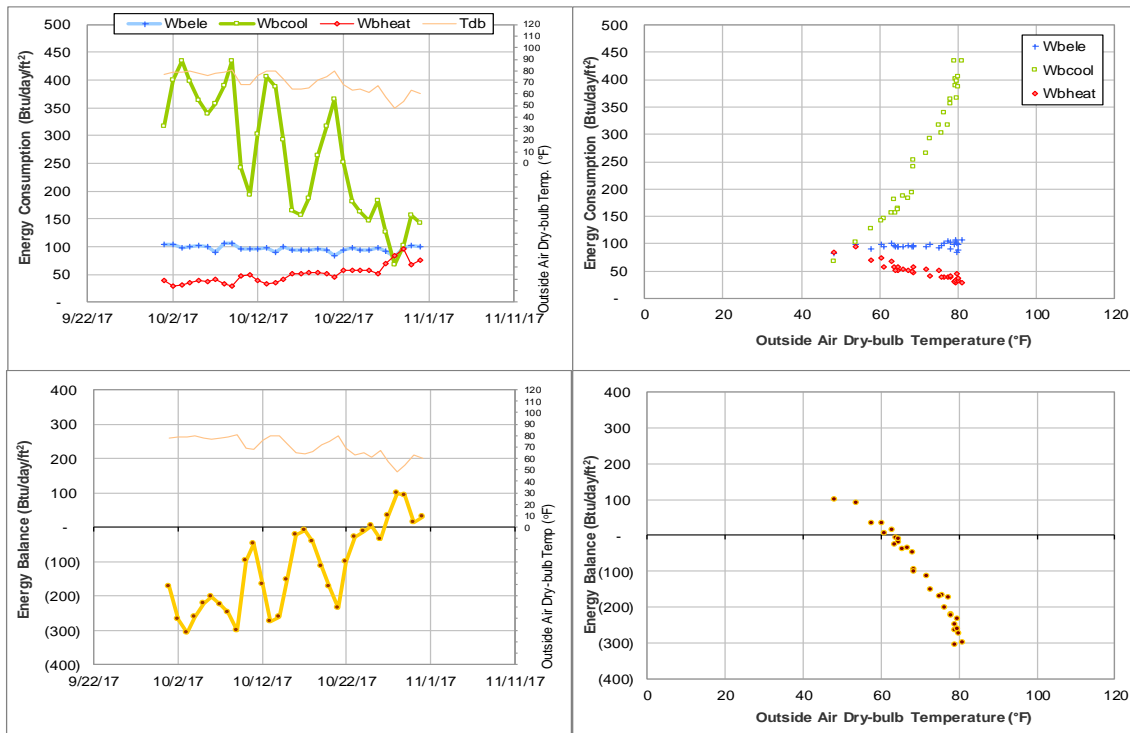


Figure IV-36 Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center TAMU BLDG # 405, #407, #1402 Energy Balance Plot during October 2017

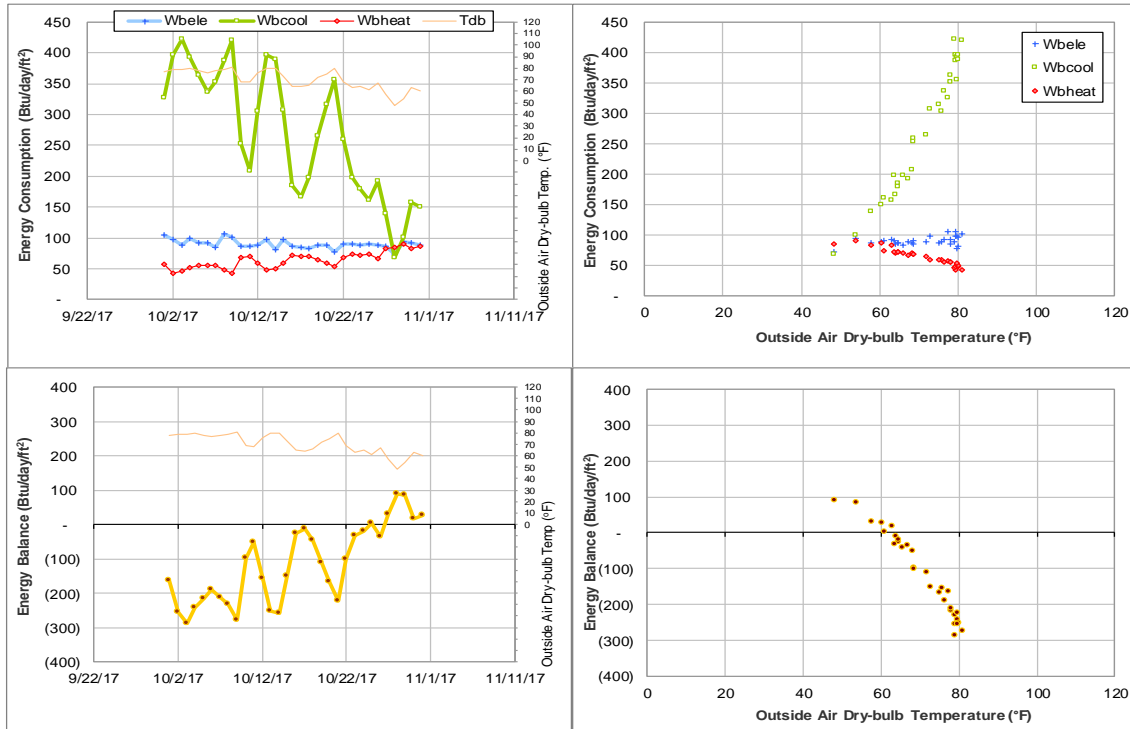


Figure IV-37 Lacy Hall - Dorm 6 TAMU BLDG # 405 Energy Balance Plot during October 2017

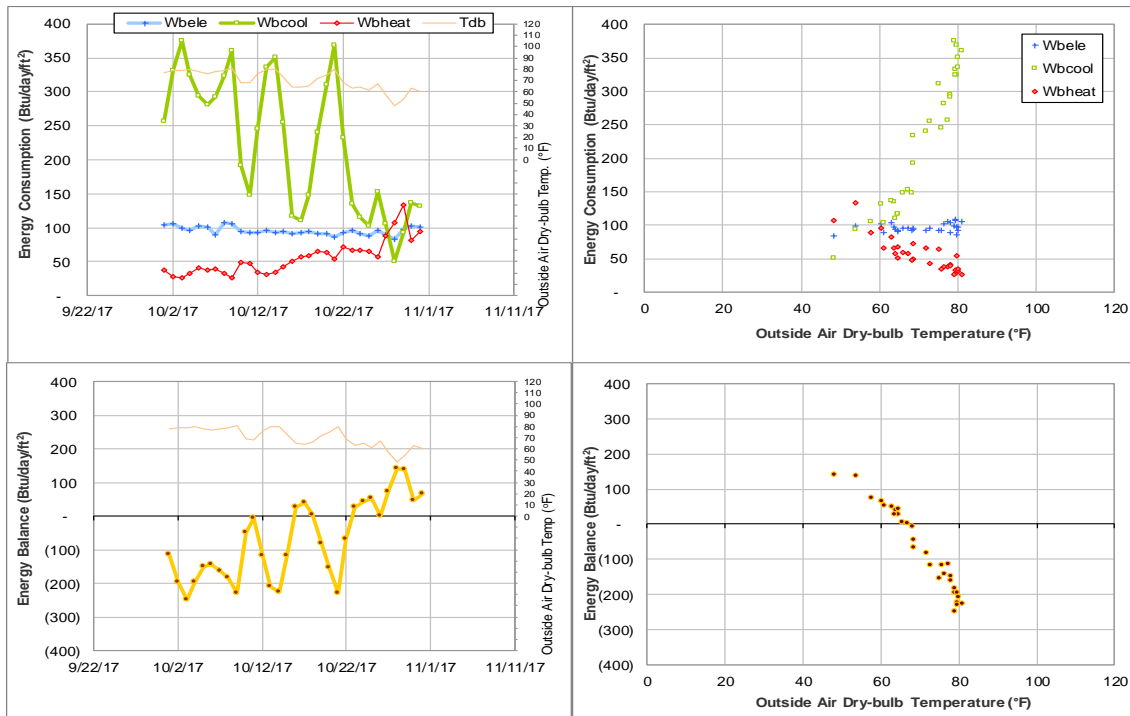


Figure IV-38 Harrell Hall - Dorm 8 TAMU BLDG # 407 Energy Balance Plot during October 2017

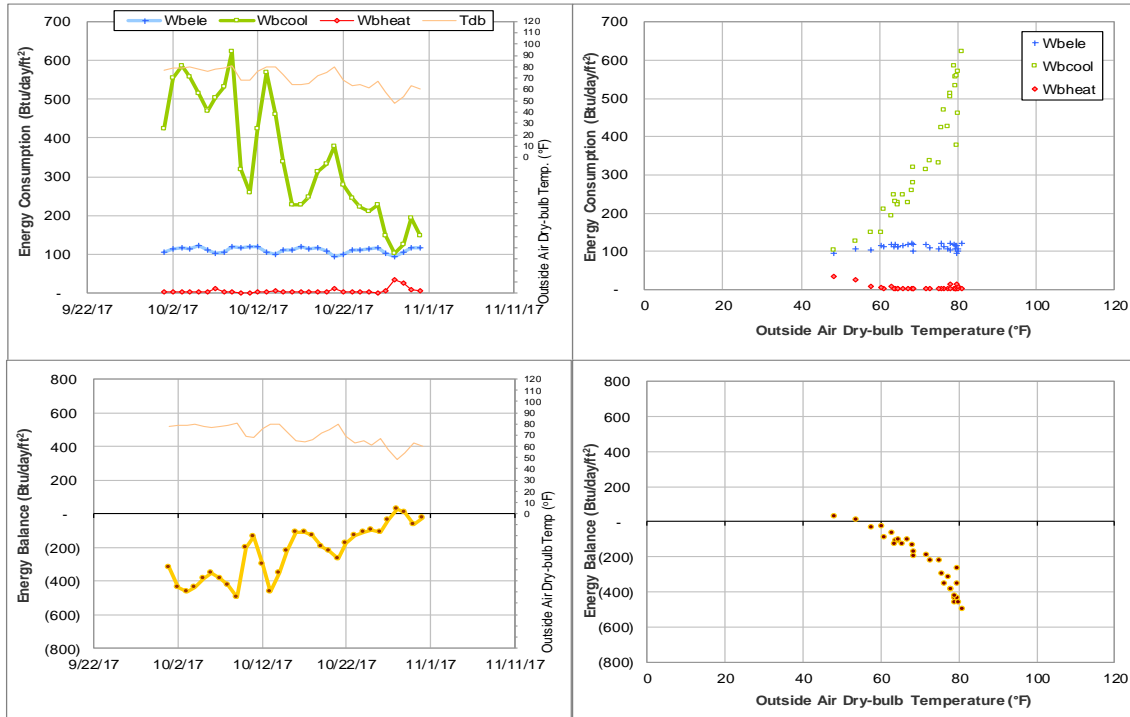


Figure IV-39 Buzbee Leadership Learning Center TAMU BLDG # 1402 Energy Balance Plot during October 2017

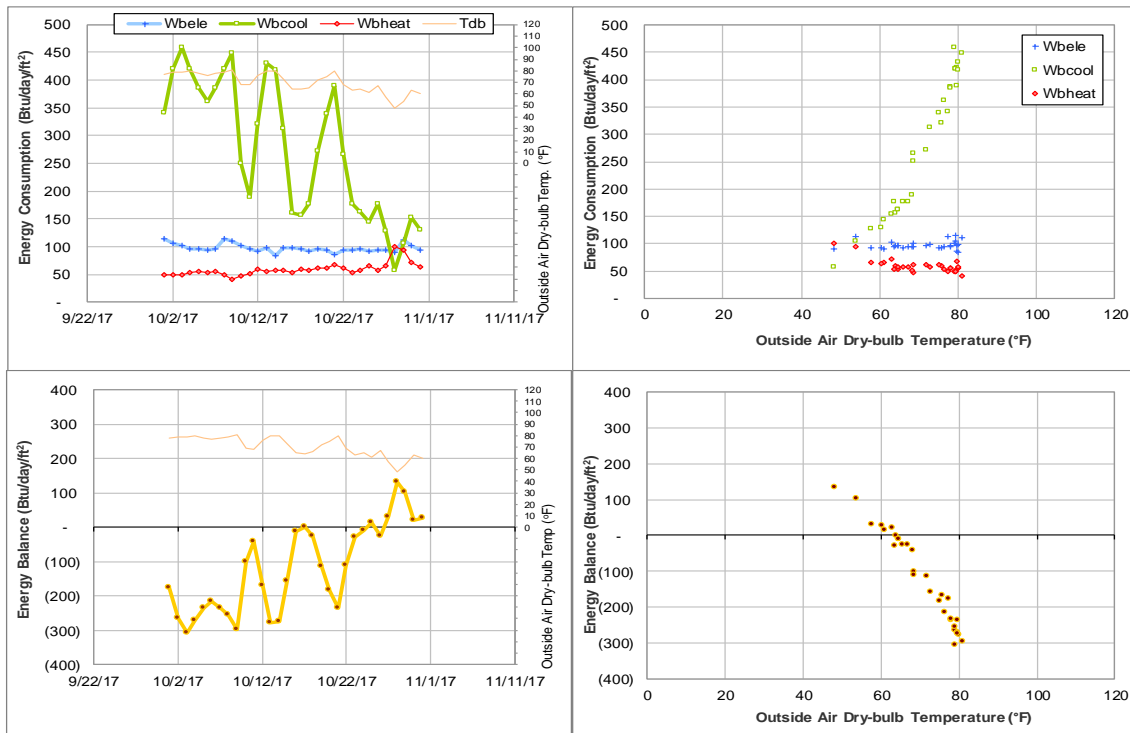


Figure IV-40 Whitely Hall - Dorm 9 TAMU BLDG # 408 Energy Balance Plot during October 2017

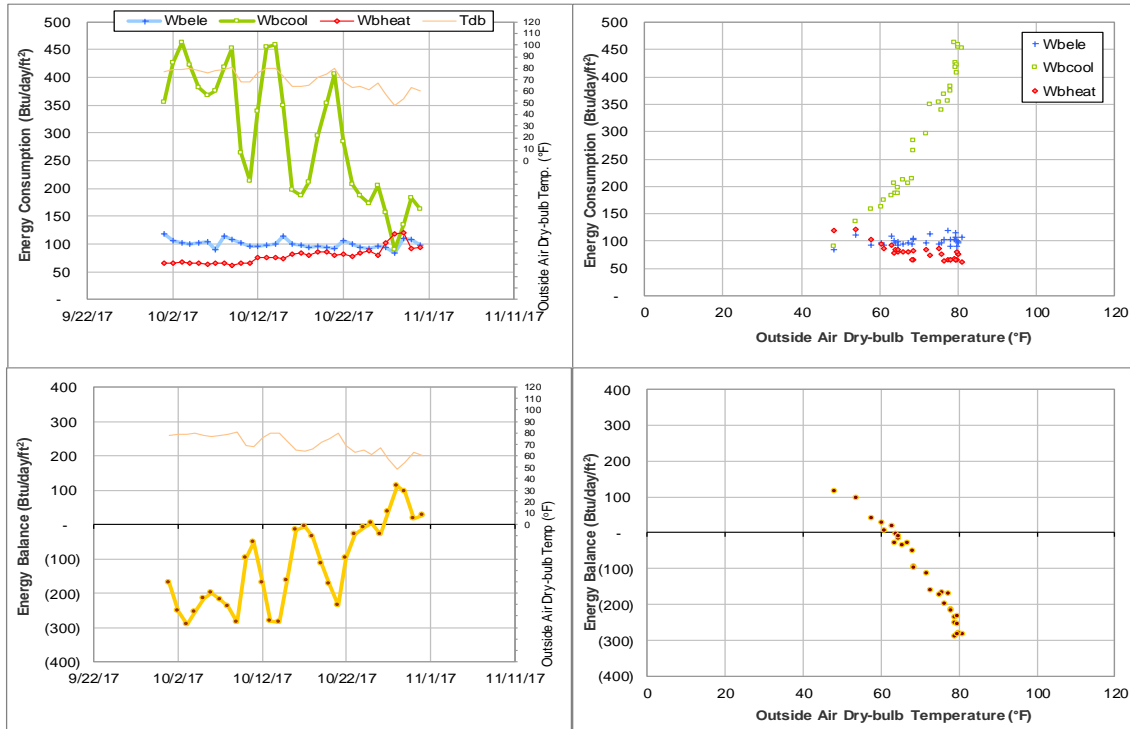


Figure IV-41 White Hall - Dorm 10 TAMU BLDG # 409 Energy Balance Plot during October 2017

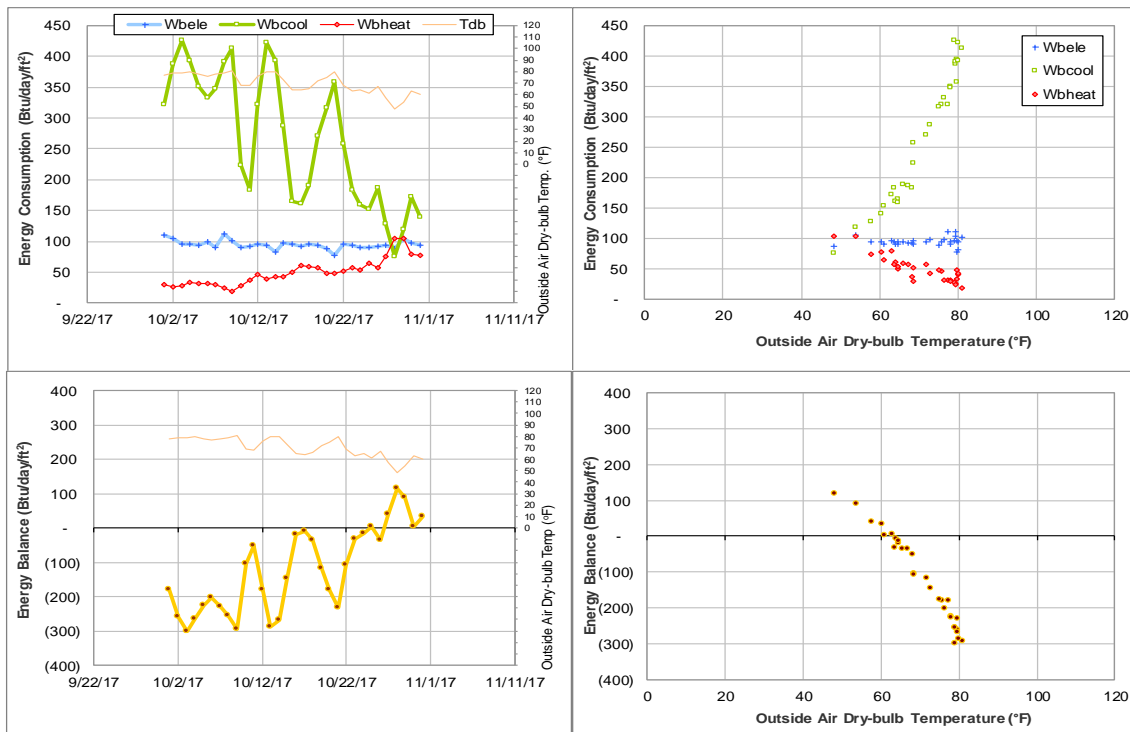


Figure IV-42 Harrington Hall - Dorm 11 TAMU BLDG # 410 Energy Balance Plot during October 2017



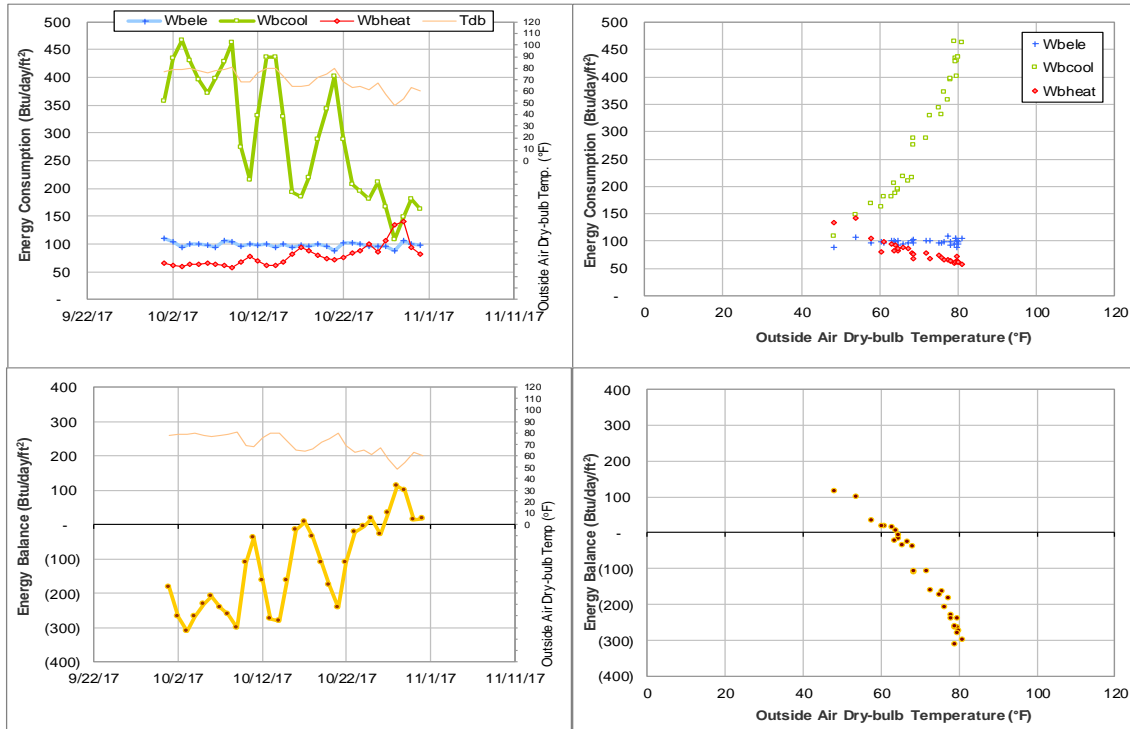


Figure IV-43 Utay Hall - Dorm 12 TAMU BLDG # 411 Energy Balance Plot during October 2017

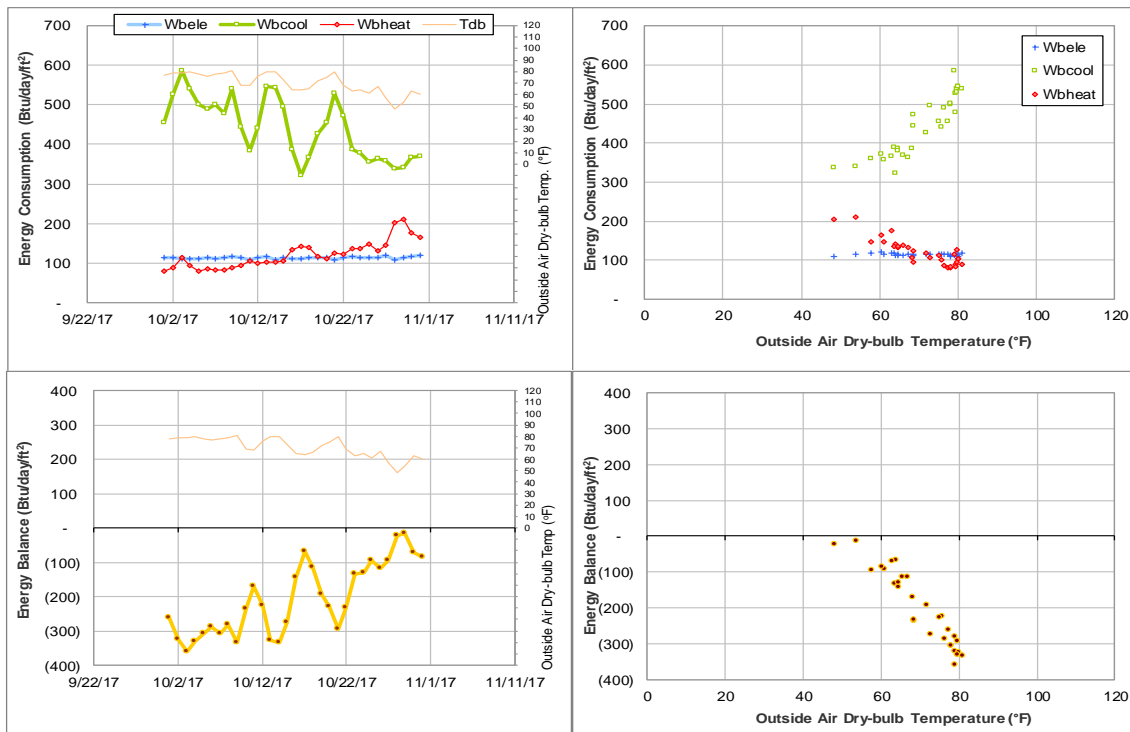


Figure IV-44 Moses Residence Hall TAMU BLDG # 412 Energy Balance Plot during October 2017

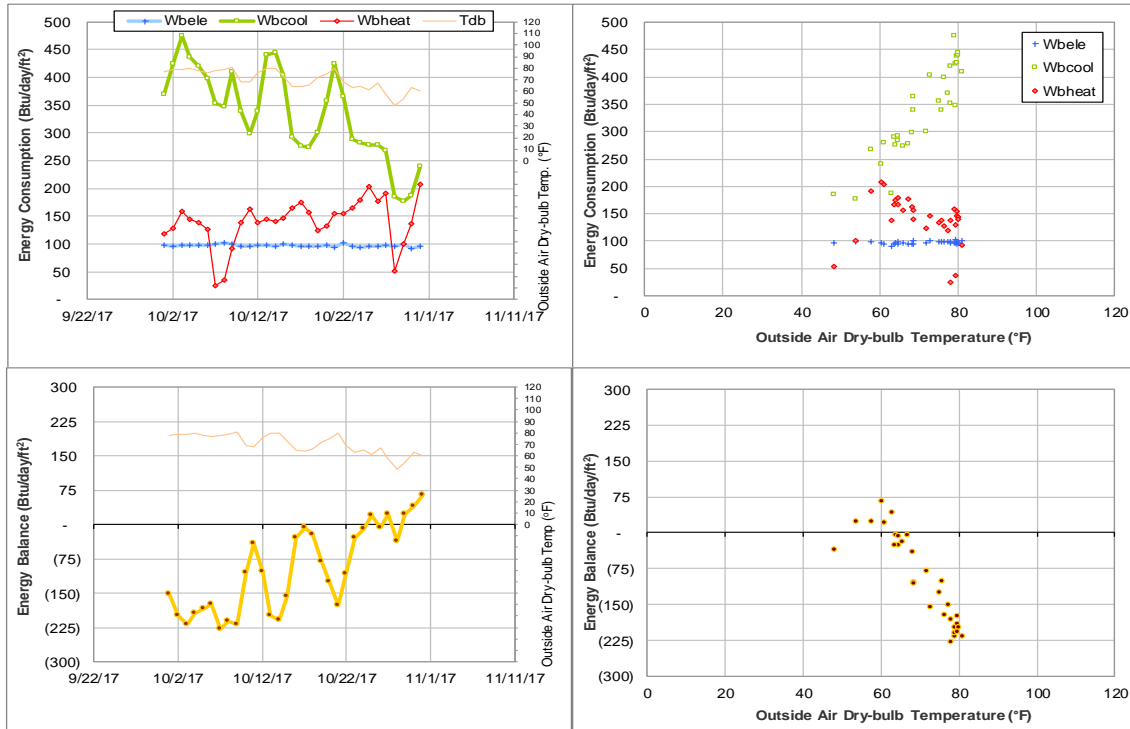


Figure IV-45 Davis-Gary Residence Hall TAMU BLDG # 415 Energy Balance Plot during October 2017

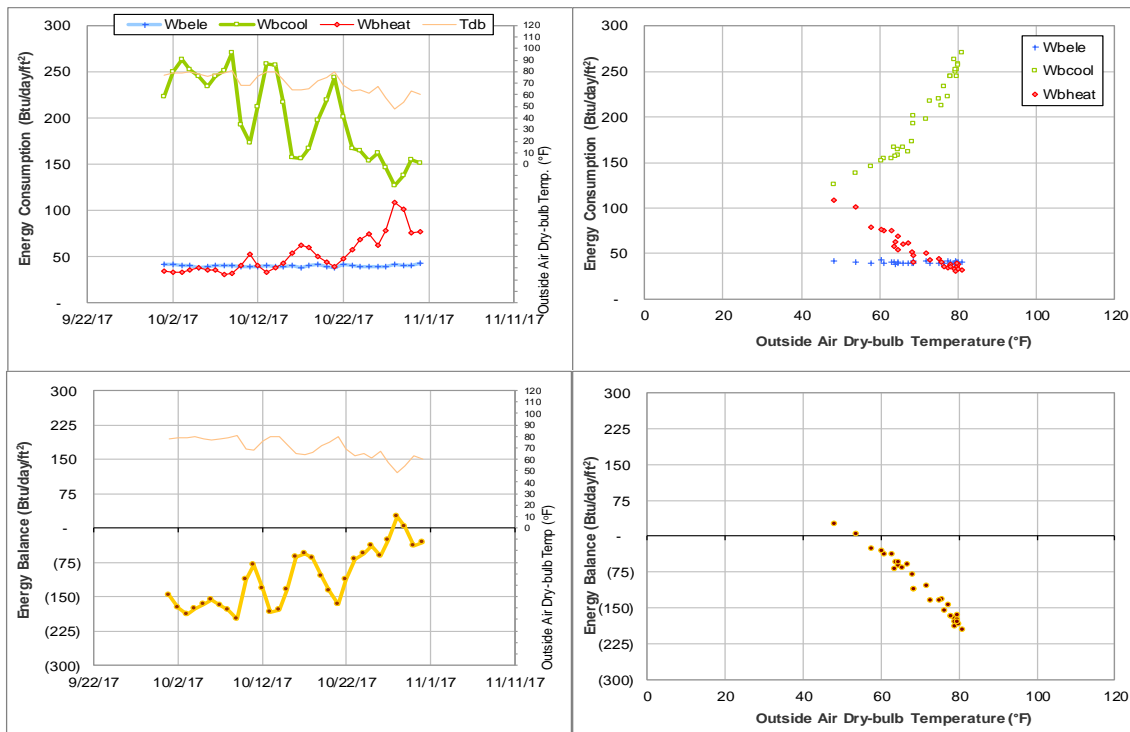


Figure IV-46 Legett Residence Hall TAMU BLDG # 419 Energy Balance Plot during October 2017

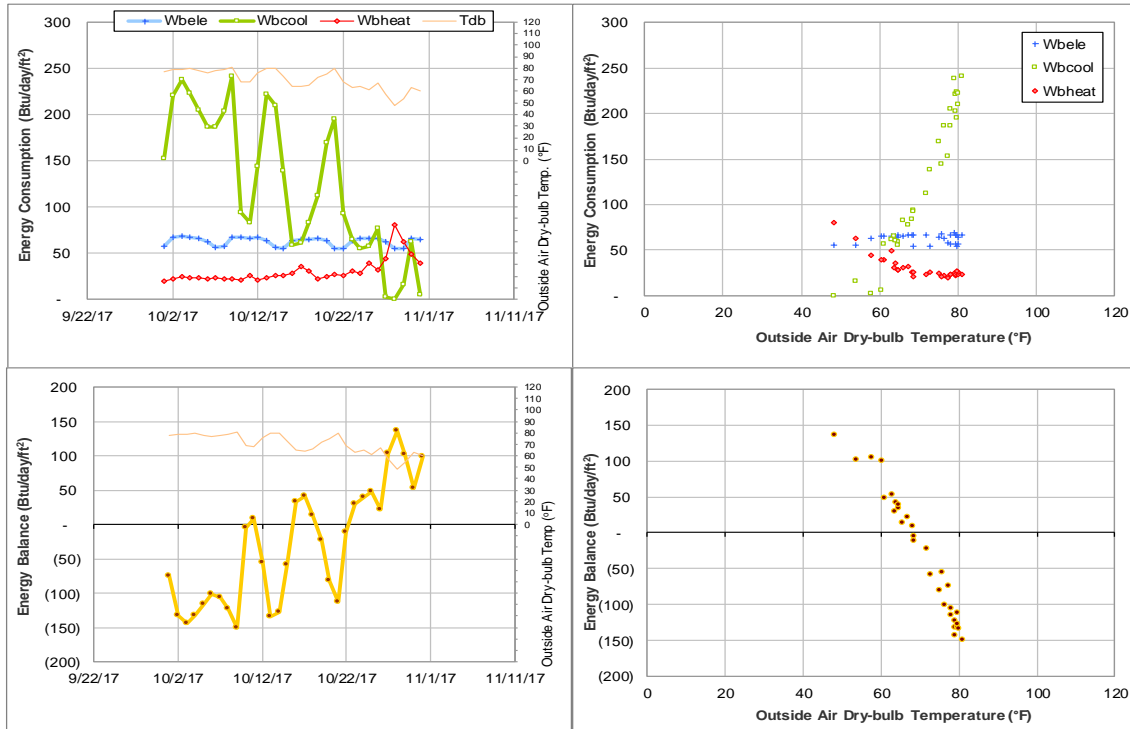


Figure IV-47 Milner Hall TAMU BLDG # 420 Energy Balance Plot during October 2017

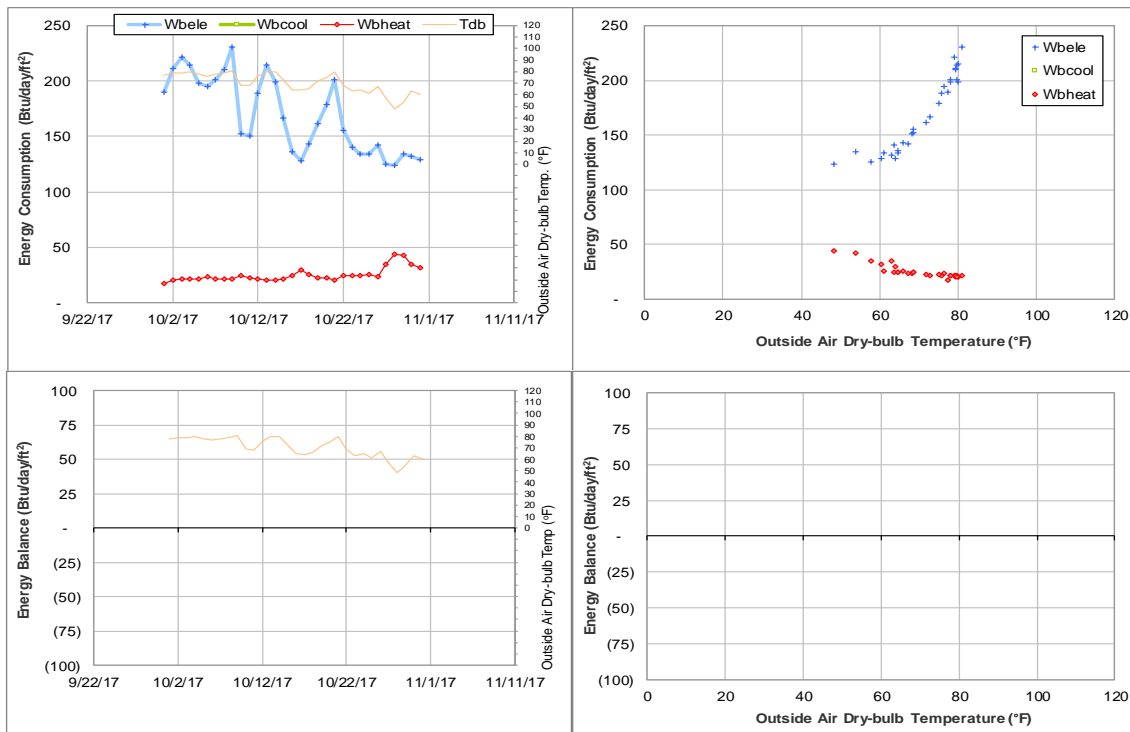


Figure IV-48 Walton Residence Hall TAMU BLDG # 422 Energy Balance Plot during October 2017

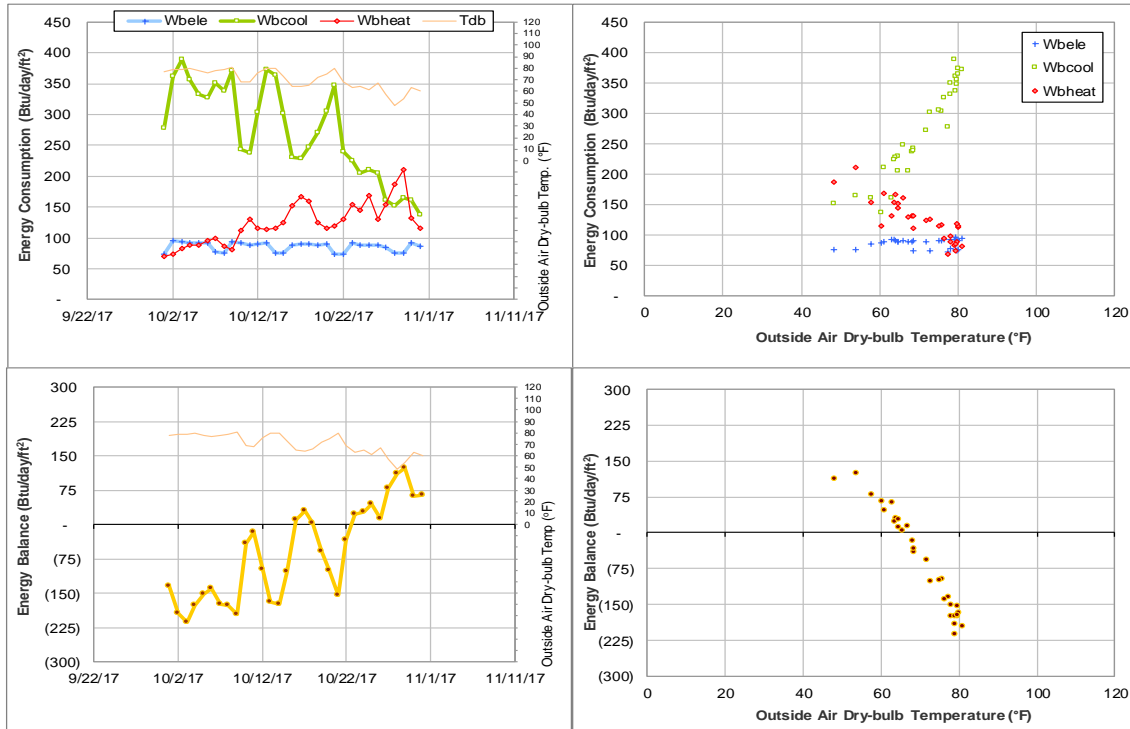


Figure IV-49 Hotard Hall TAMU BLDG # 424 Energy Balance Plot during October 2017

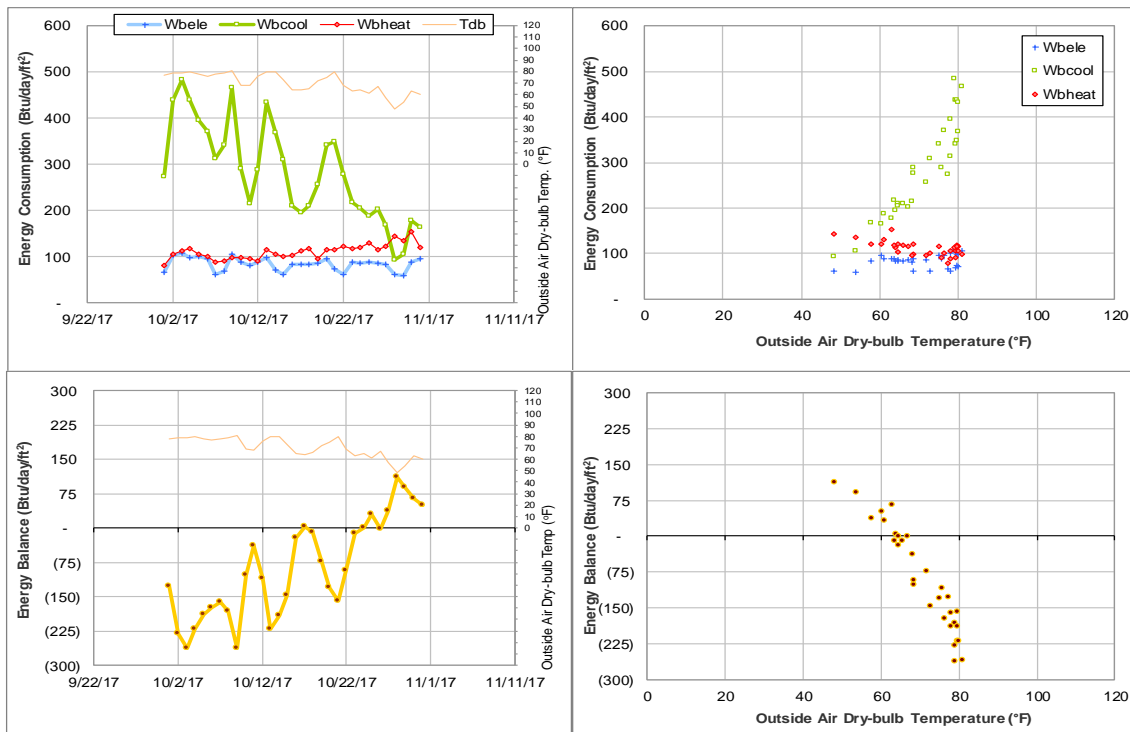


Figure IV-50 Henderson Hall TAMU BLDG # 425 Energy Balance Plot during October 2017

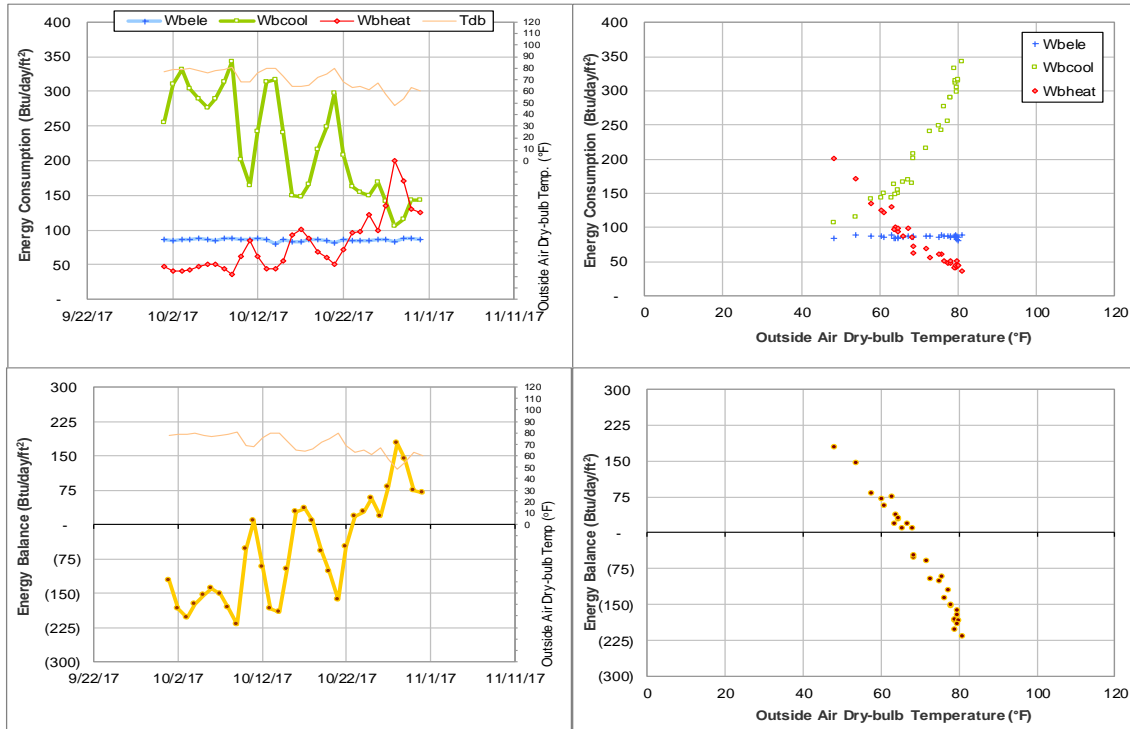


Figure IV-51 FHK Complex TAMU BLDG # 426 Energy Balance Plot during October 2017

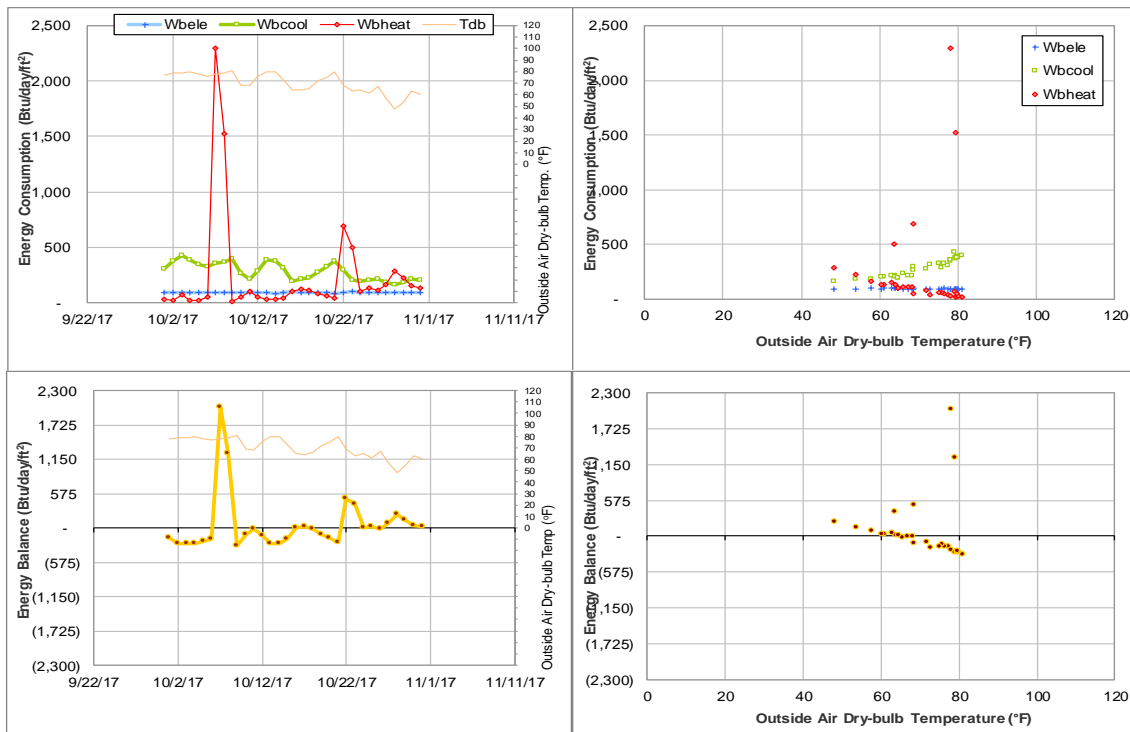


Figure IV-52 Schumacher Residence Hall TAMU BLDG # 430 Energy Balance Plot during October 2017

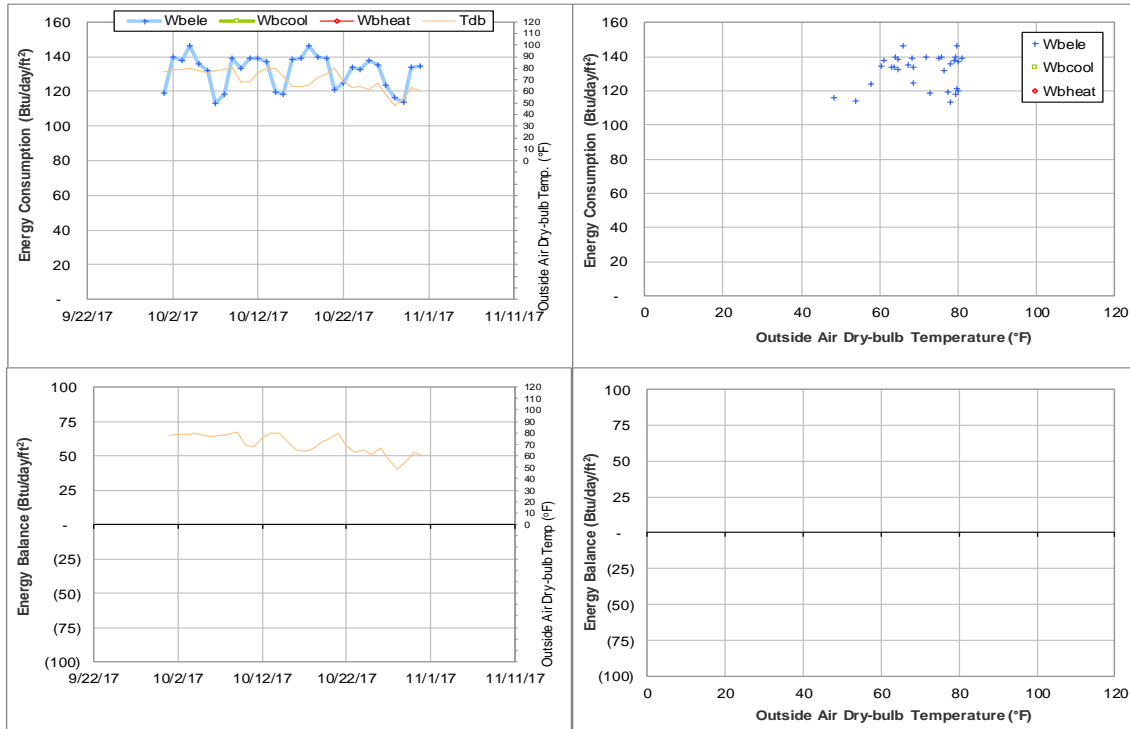


Figure IV-53 Architecture Building C TAMU BLDG # 432 Energy Balance Plot during October 2017

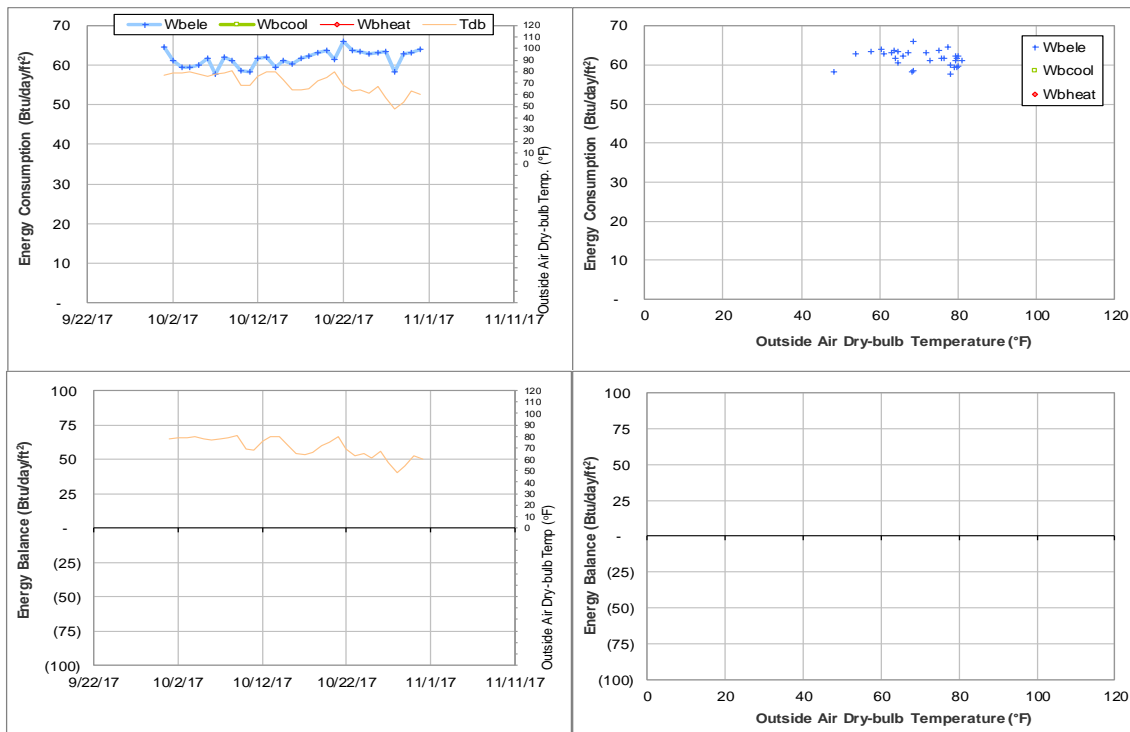


Figure IV-54 Mosher Commons Krueger Dunn Aston TAMU BLDG # 433, #440, #441, #442, and #447 Energy Balance Plot during October 2017

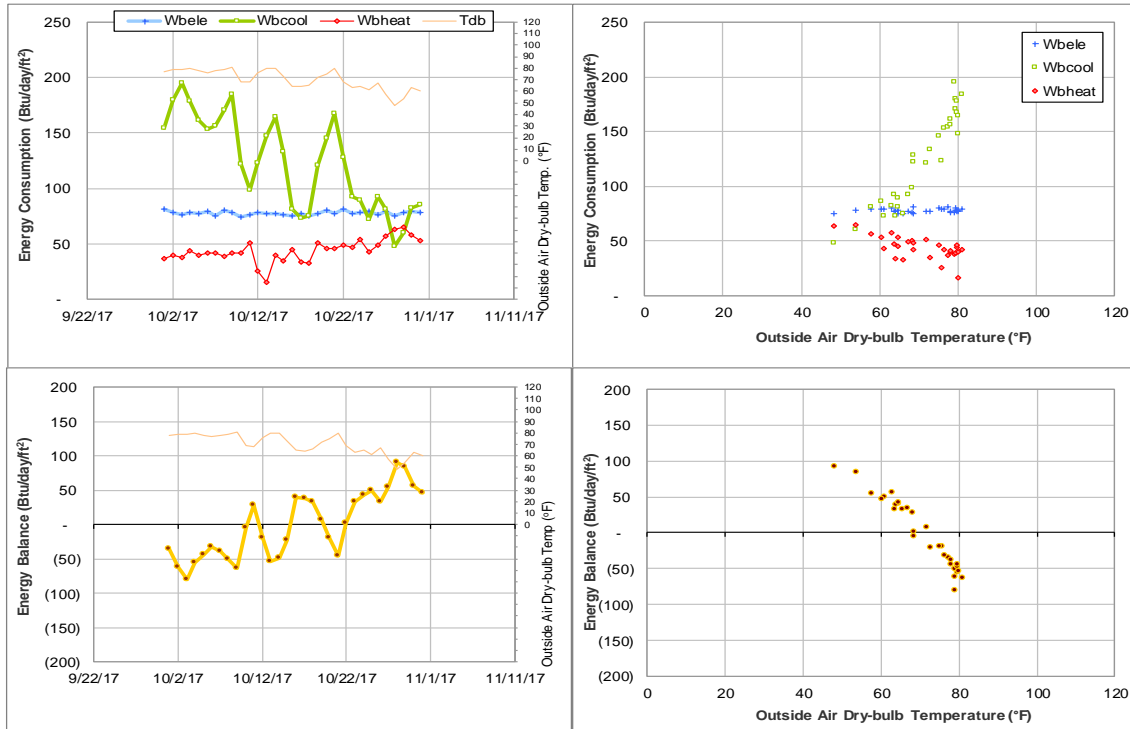


Figure IV-55 Moshier Residence Hall TAMU BLDG # 433 Energy Balance Plot during October 2017

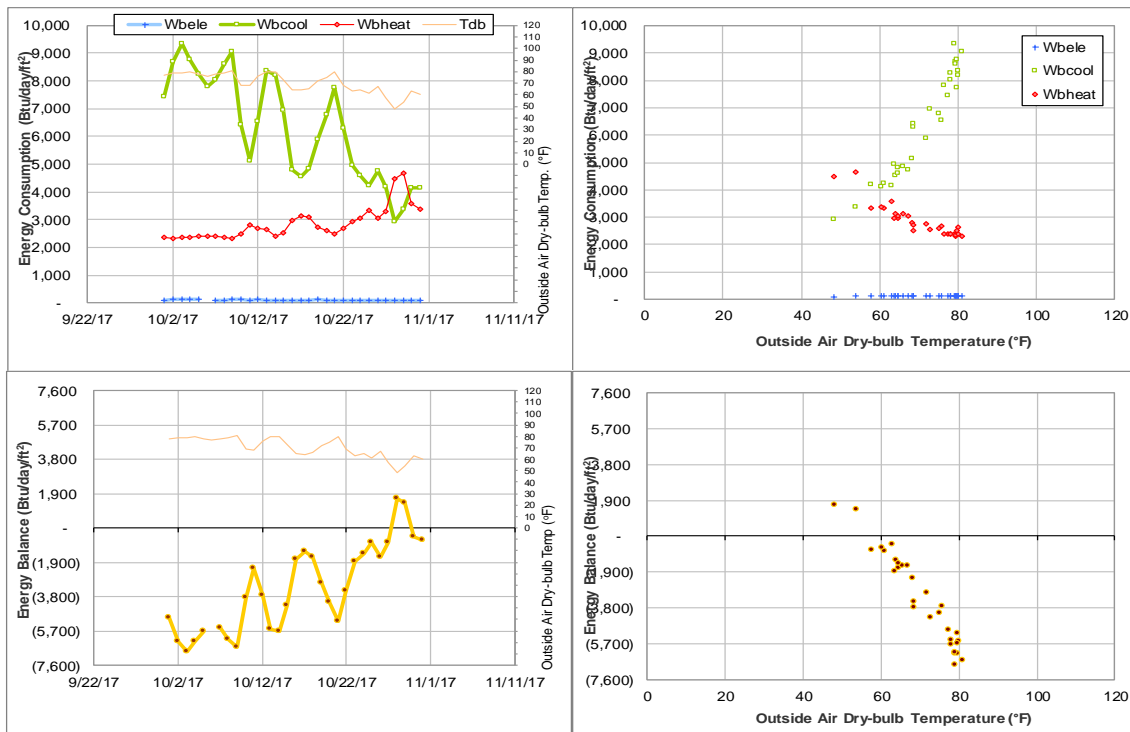


Figure IV-56 Commons Krueger TAMU BLDG # 440 and #441 Energy Balance Plot during October 2017

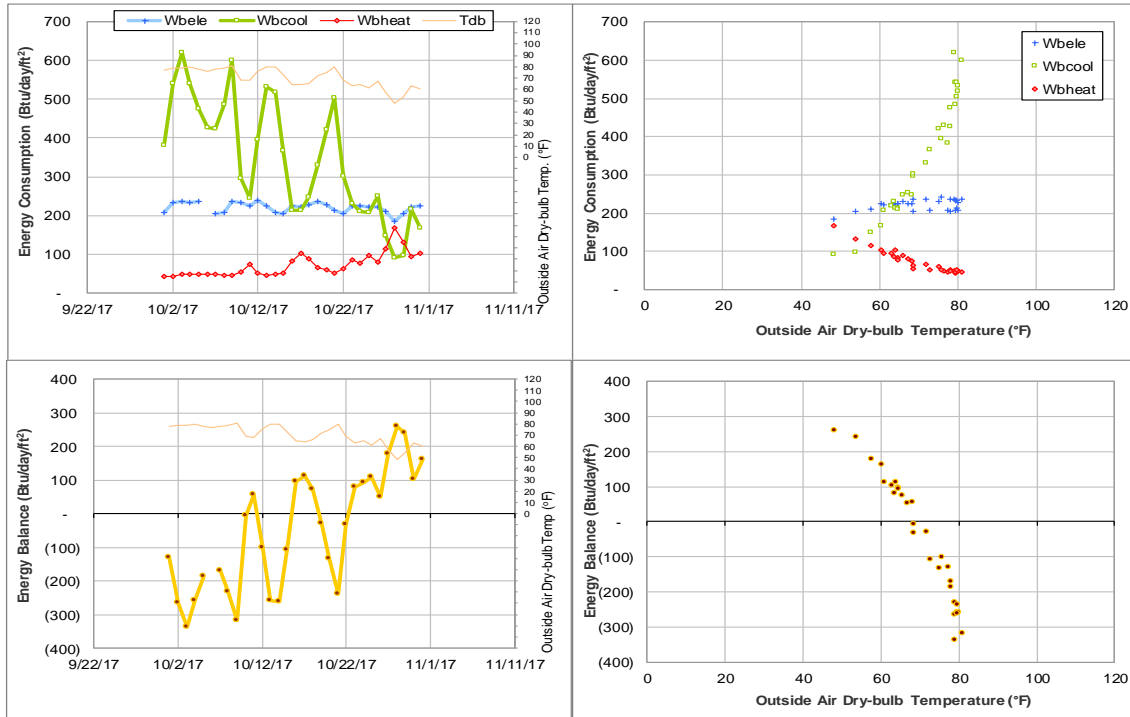


Figure IV-57 Commons Hall TAMU BLDG # 440 Energy Balance Plot during October 2017

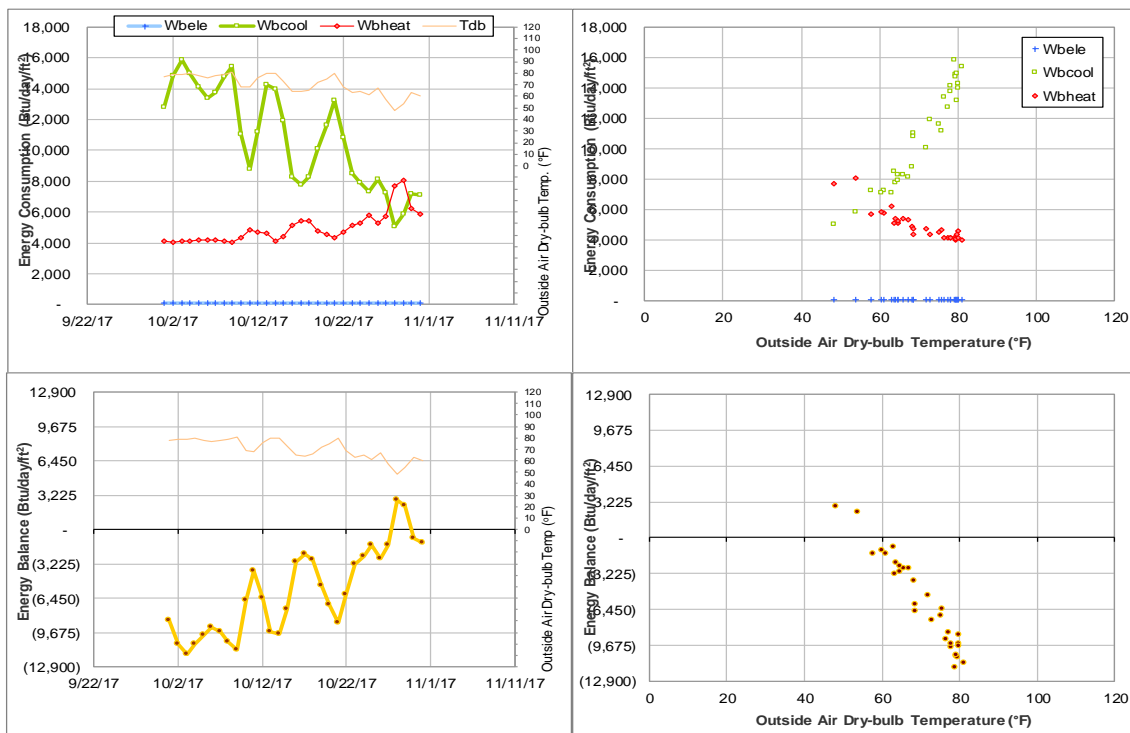


Figure IV-58 Krueger Residence Hall TAMU BLDG # 441 Energy Balance Plot during October 2017



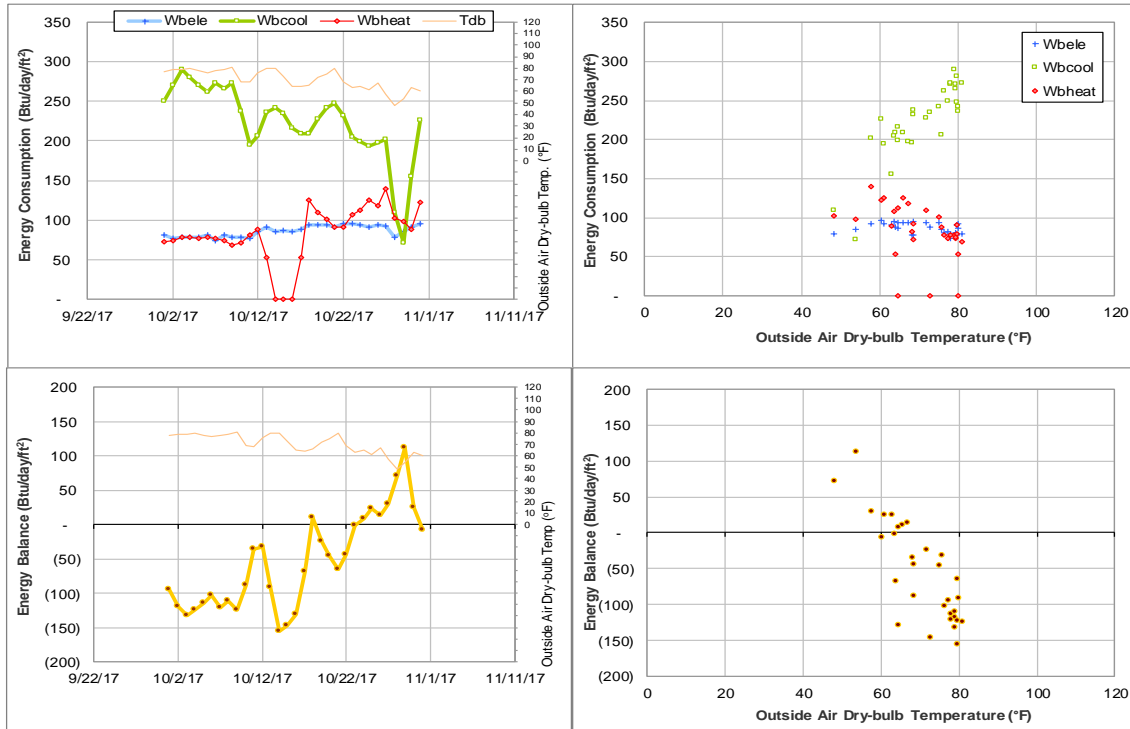


Figure IV-59 Dunn Residence Hall TAMU BLDG # 442 Energy Balance Plot during October 2017

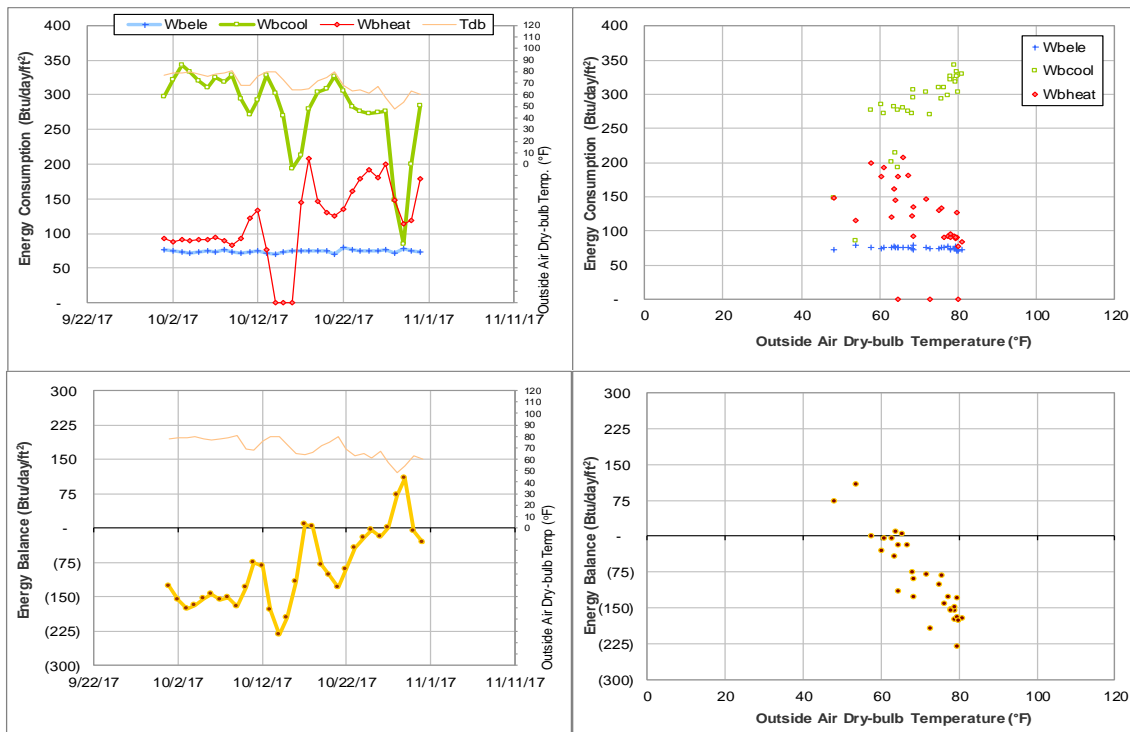


Figure IV-60 Aston Residence Hall TAMU BLDG # 447 Energy Balance Plot during October 2017

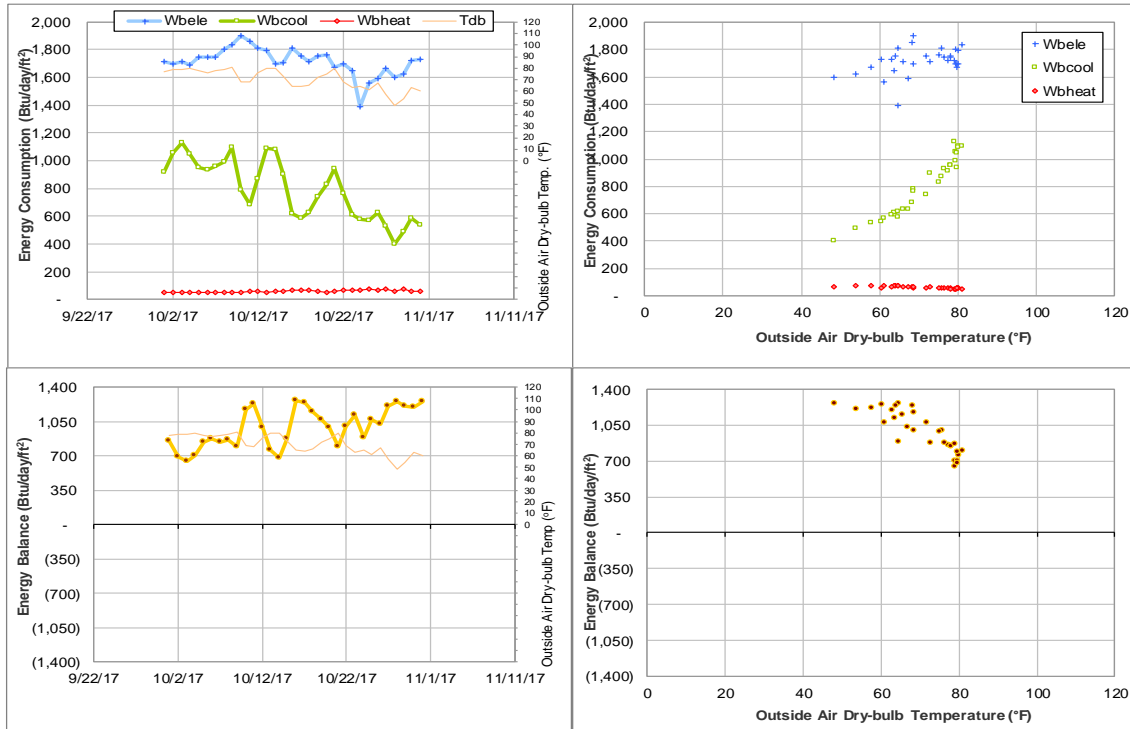


Figure IV-61 Luedecke Building (Cyclotron) TAMU BLDG # 434 Energy Balance Plot during October 2017

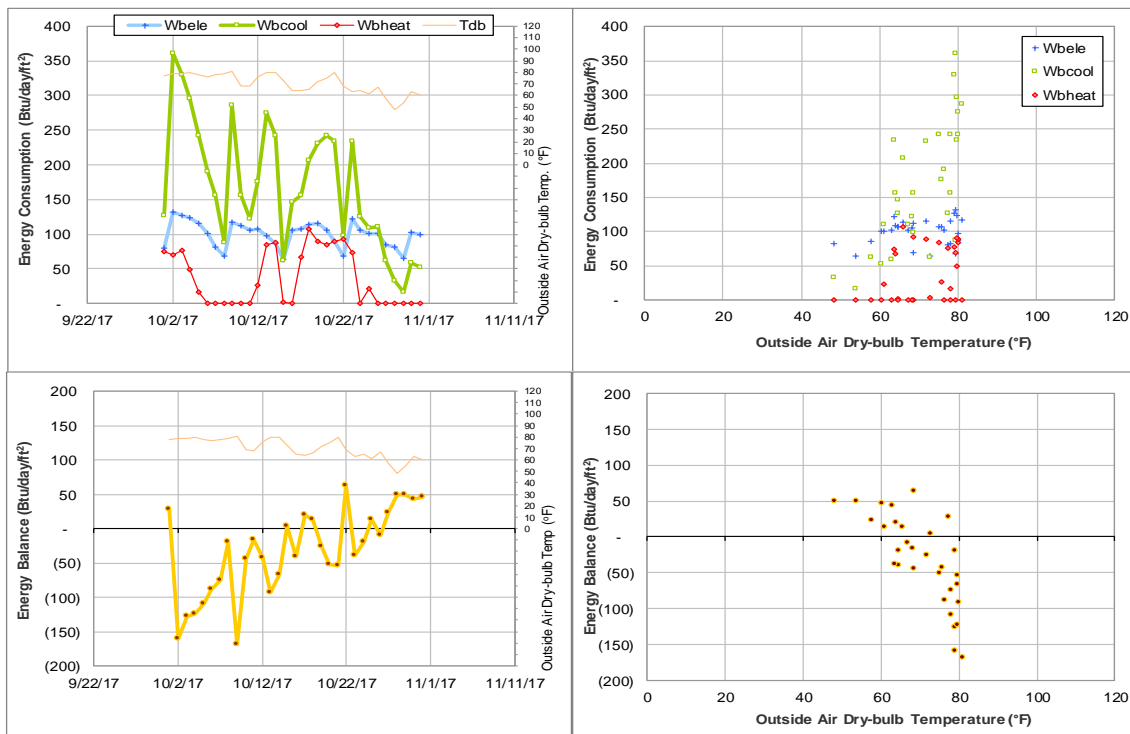


Figure IV-62 Harrington Education Center Office Tower TAMU BLDG # 435 Energy Balance Plot during October 2017

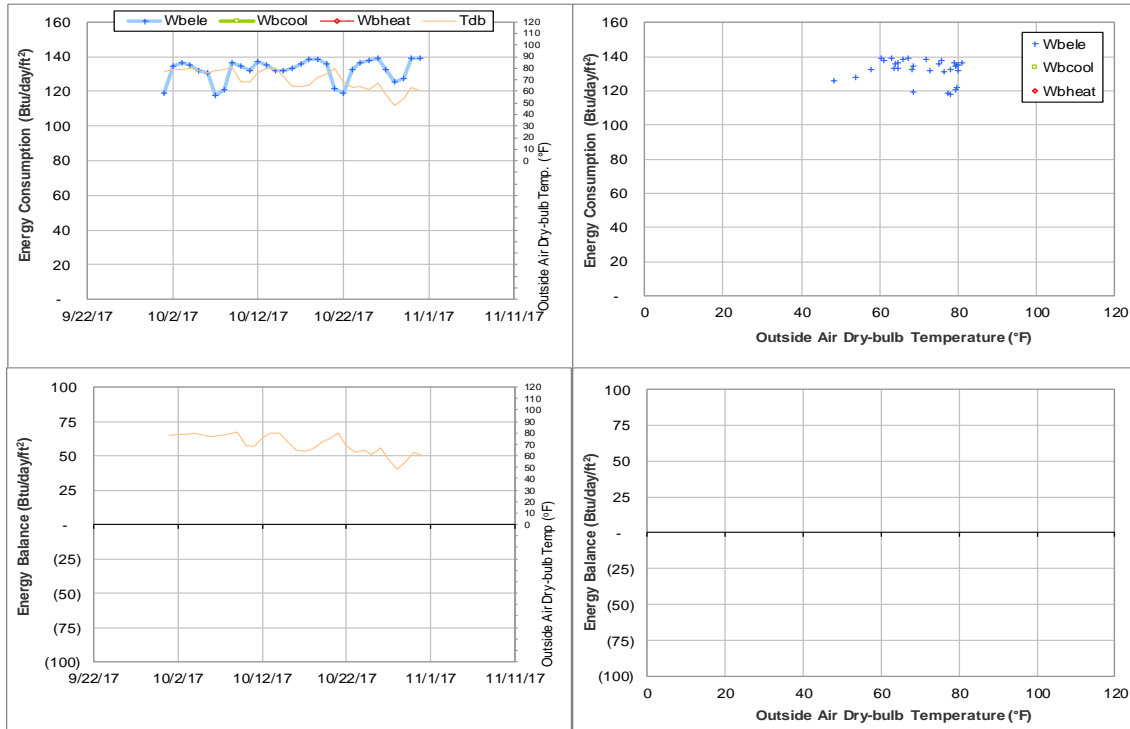


Figure IV-63 Reed-McDonald and Engineering Innovation Center TAMU BLDG # 436 and #499 Energy Balance Plot during October 2017

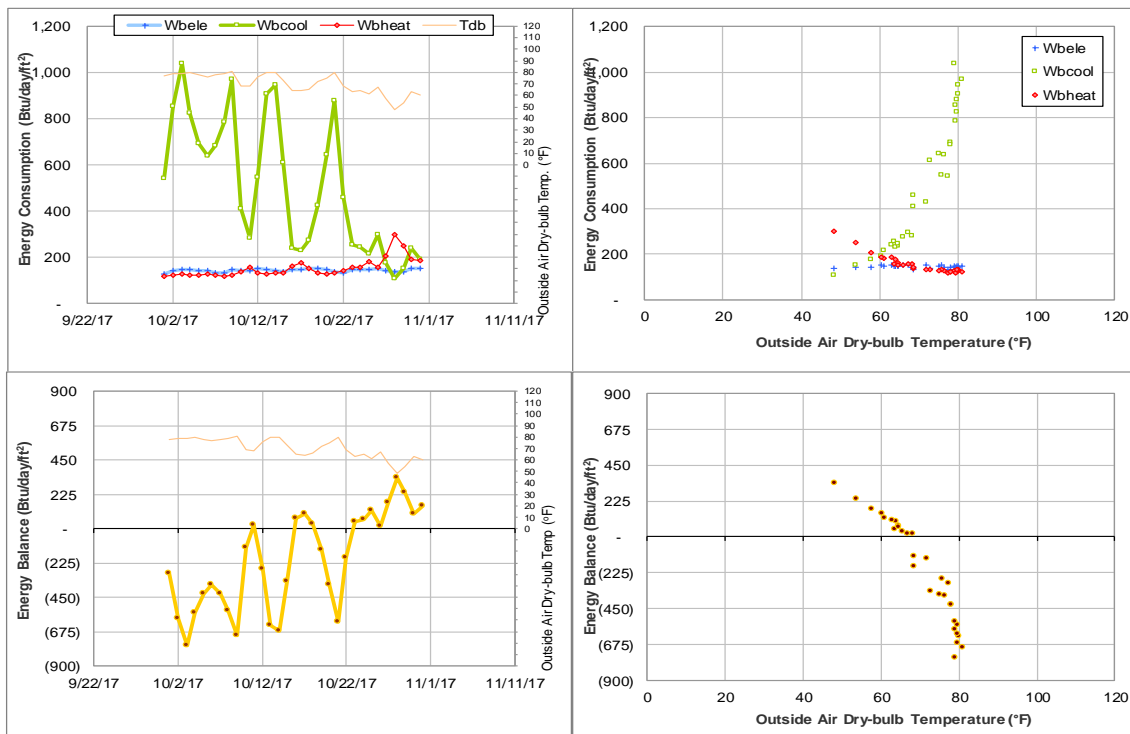


Figure IV-64 Reed-McDonald Building TAMU BLDG # 436 Energy Balance Plot during October 2017

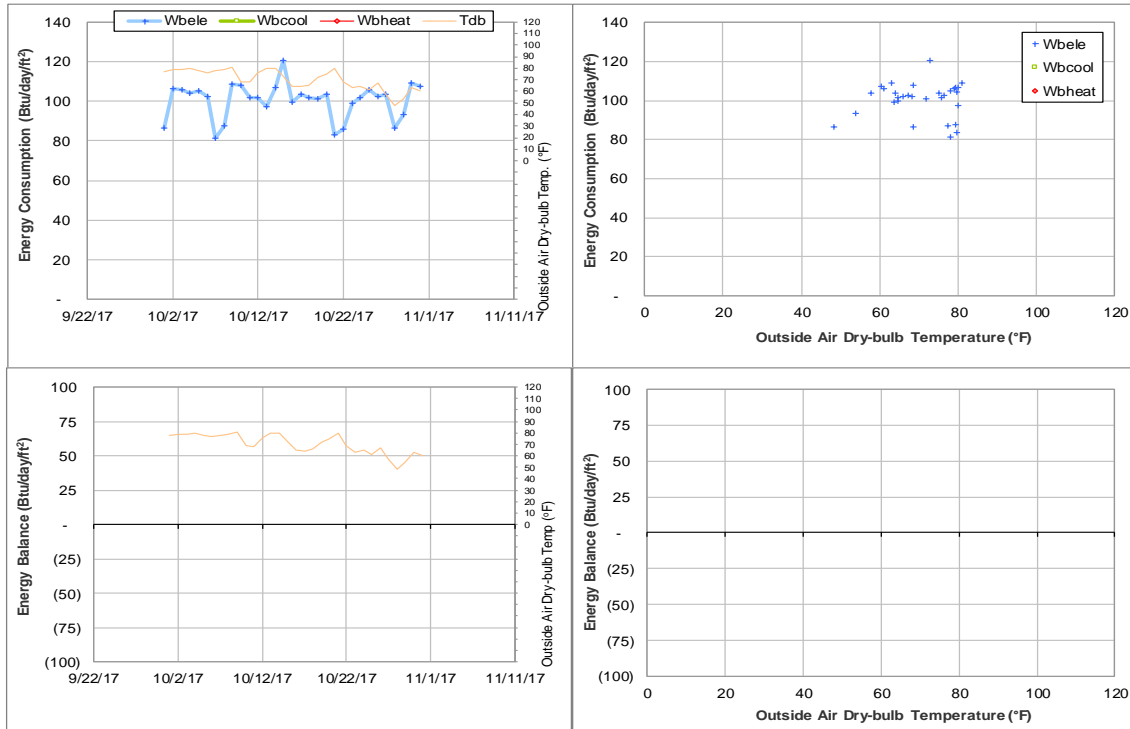


Figure IV-65 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during October 2017

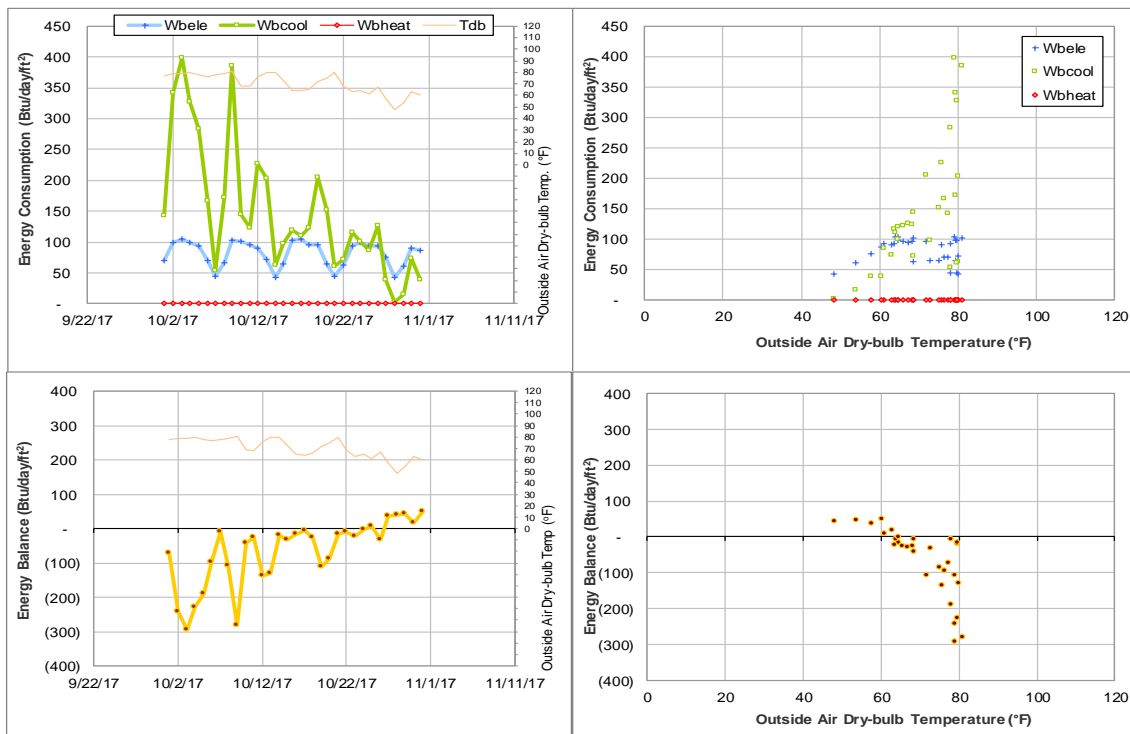


Figure IV-66 Harrington Education Center Classroom Building TAMU BLDG # 438 Energy Balance Plot during October 2017

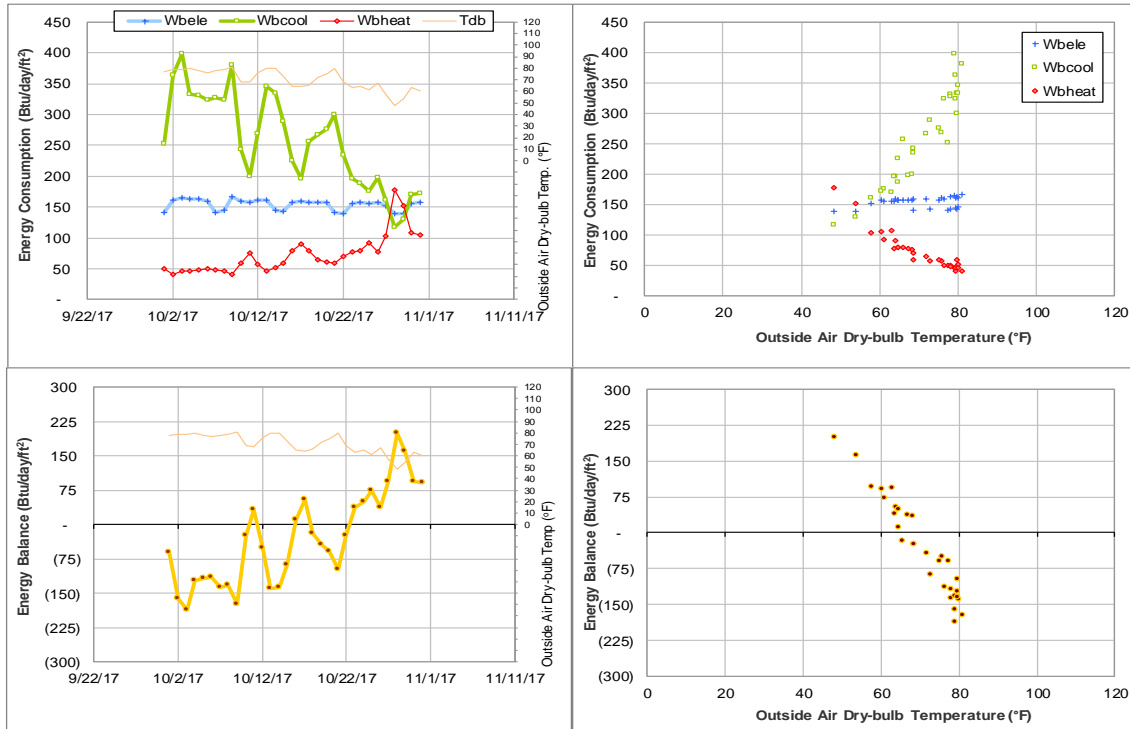


Figure IV-67 Oceanography & Meteorology Building TAMU BLDG # 443 Energy Balance Plot during October 2017

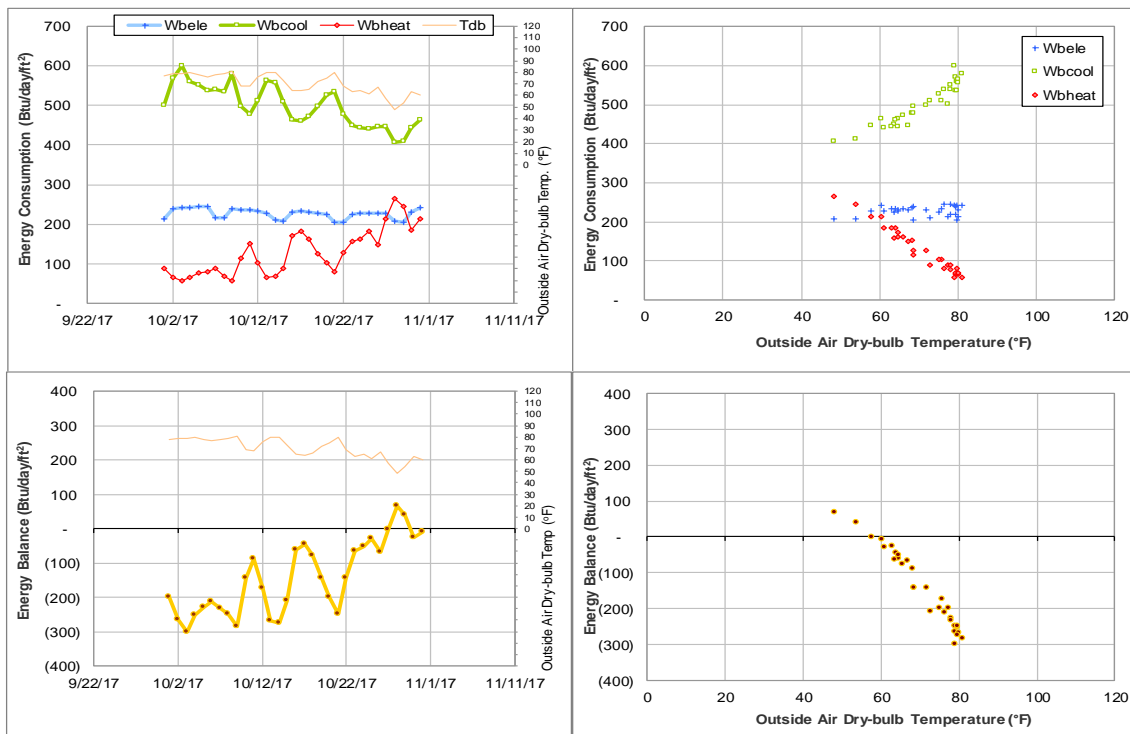


Figure IV-68 Peterson Building TAMU BLDG # 444 Energy Balance Plot during October 2017

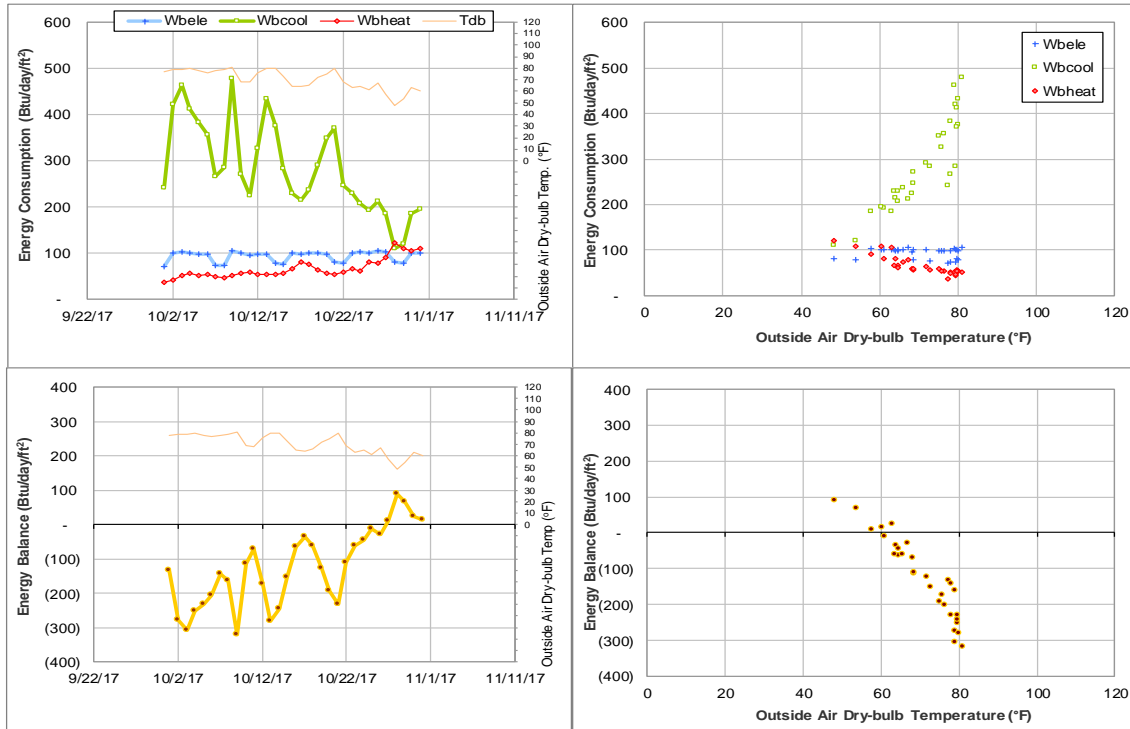


Figure IV-69 Teague Research Center and DPC Annex TAMU BLDG # 445 and #517 Energy Balance Plot during October 2017

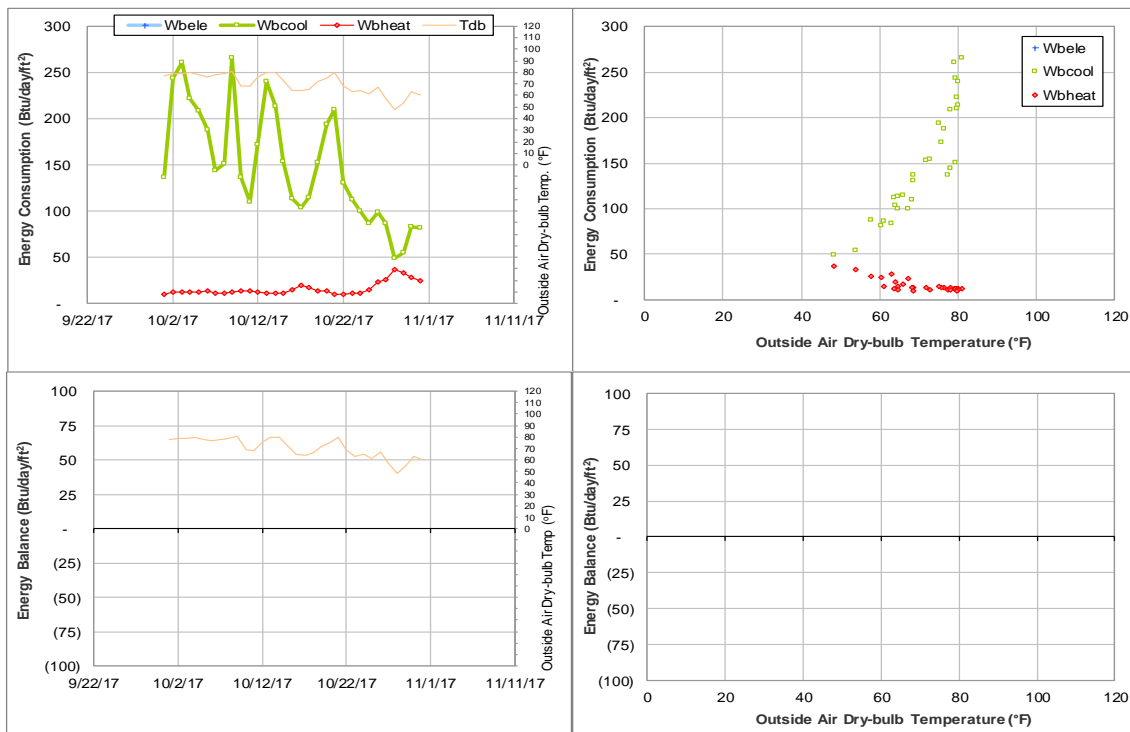


Figure IV-70 Teague Research Center TAMU BLDG # 445 Energy Balance Plot during October 2017

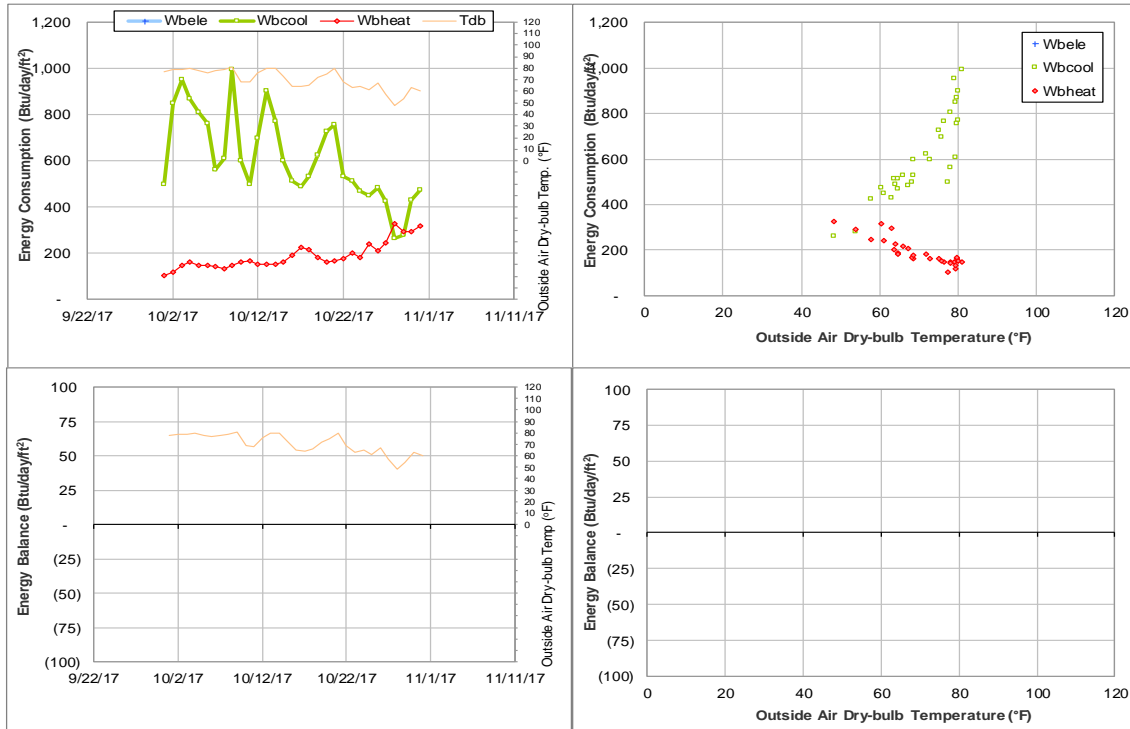


Figure IV-71 DPC Annex TAMU BLDG # 517 Energy Balance Plot during October 2017

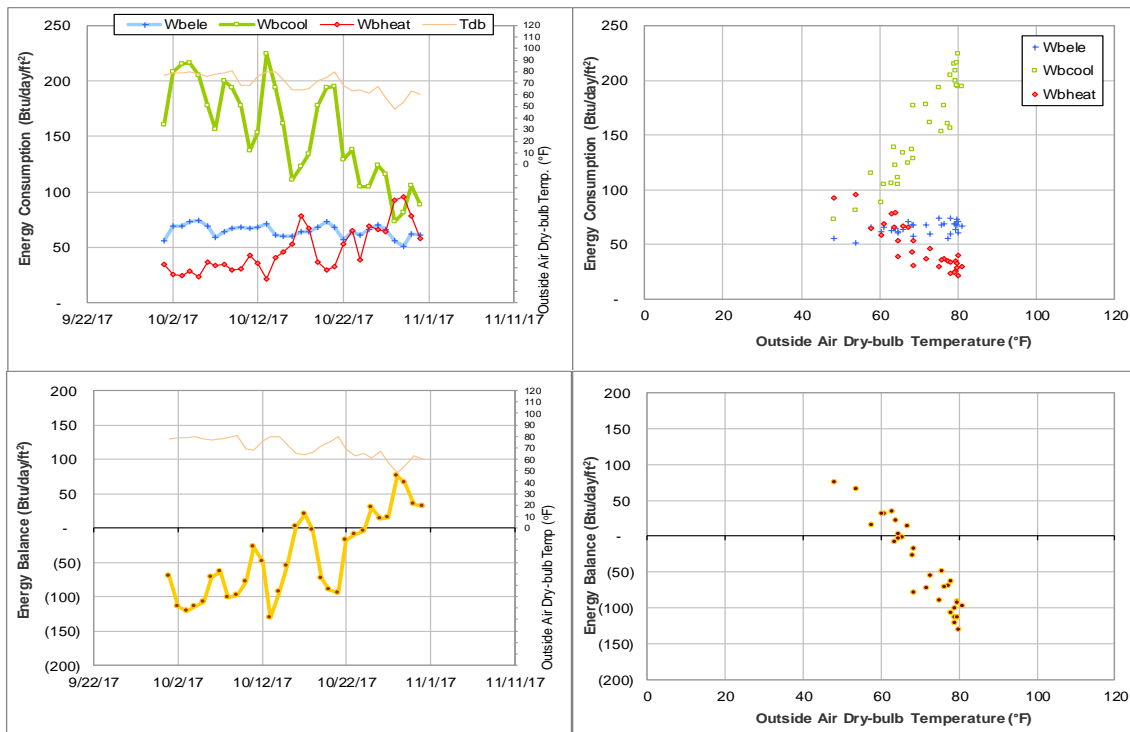


Figure IV-72 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during October 2017

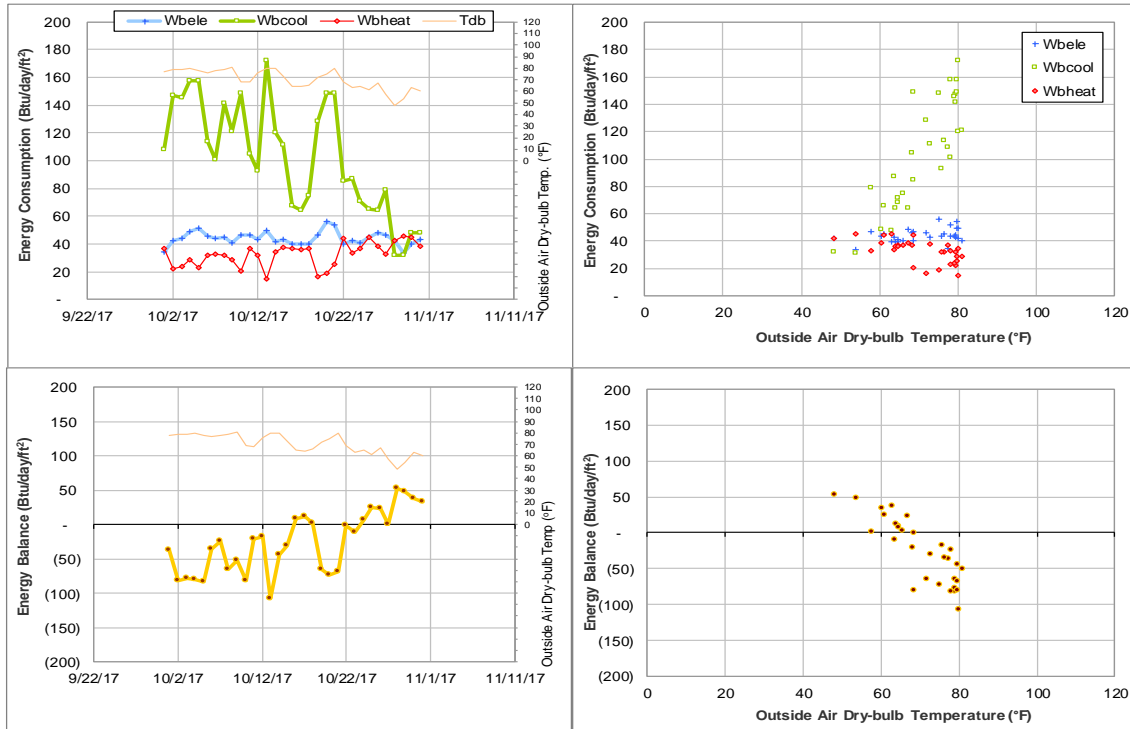


Figure IV-73 Rudder Theatre Complex TAMU BLDG # 446 Energy Balance Plot during October 2017

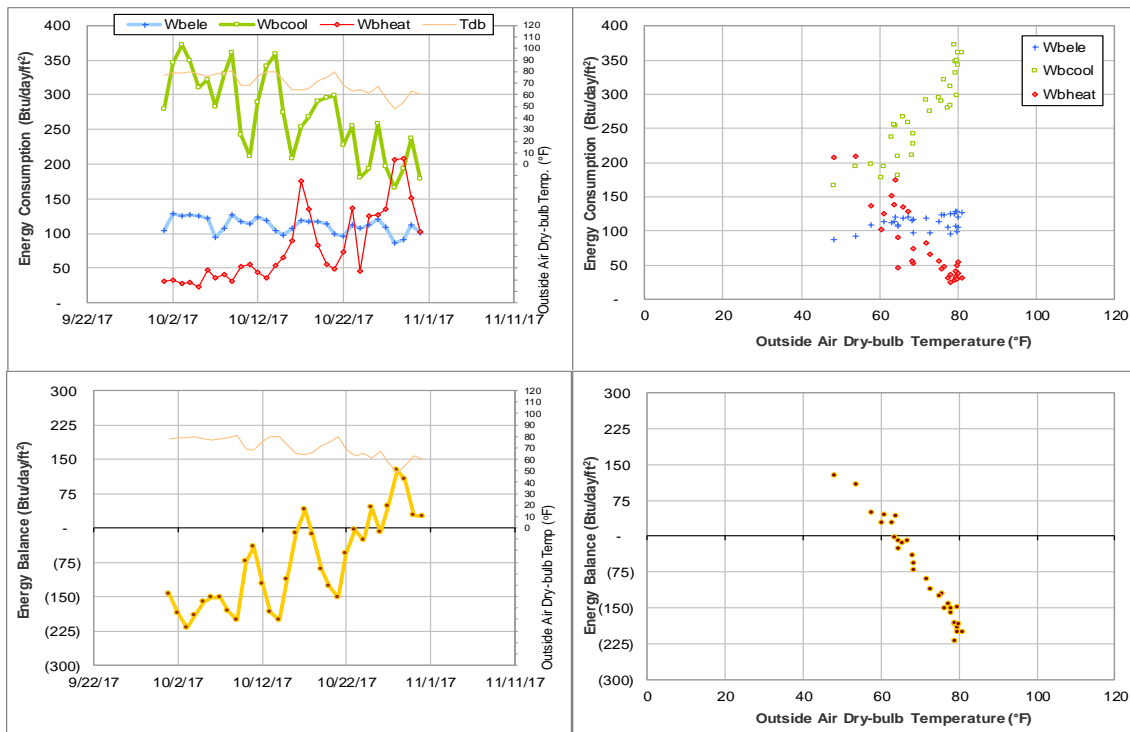


Figure IV-74 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during October 2017



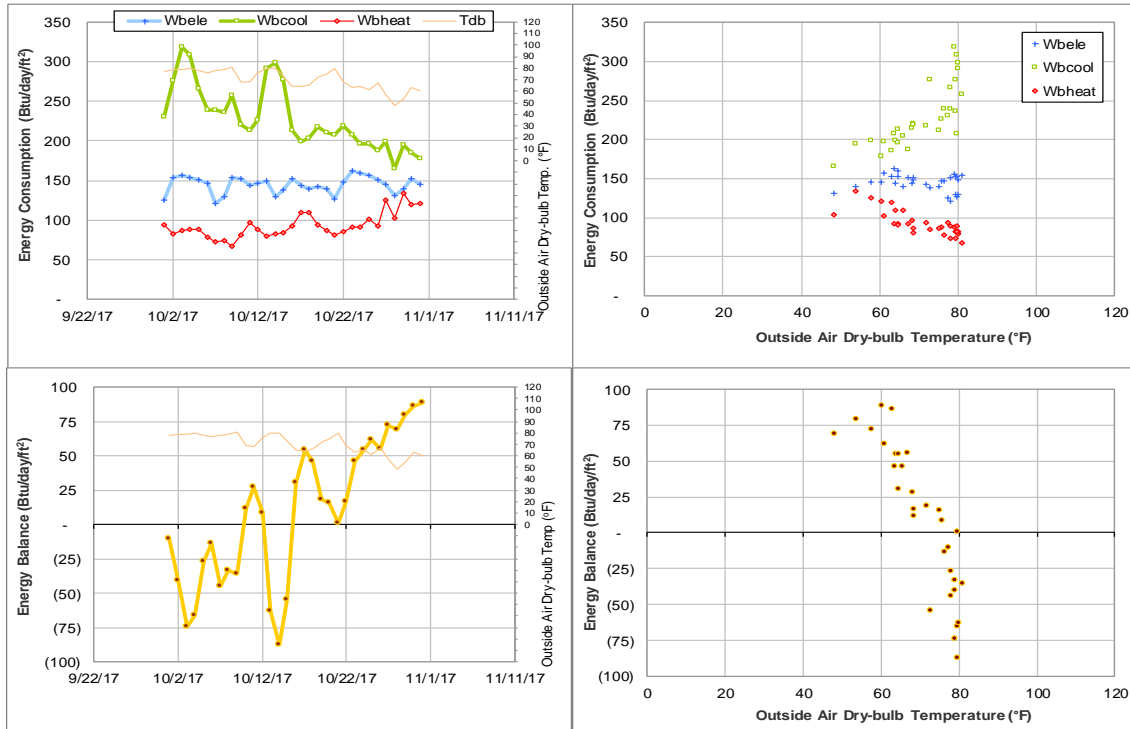


Figure IV-75 Adams Band Hall TAMU BLDG # 448 Energy Balance Plot during October 2017

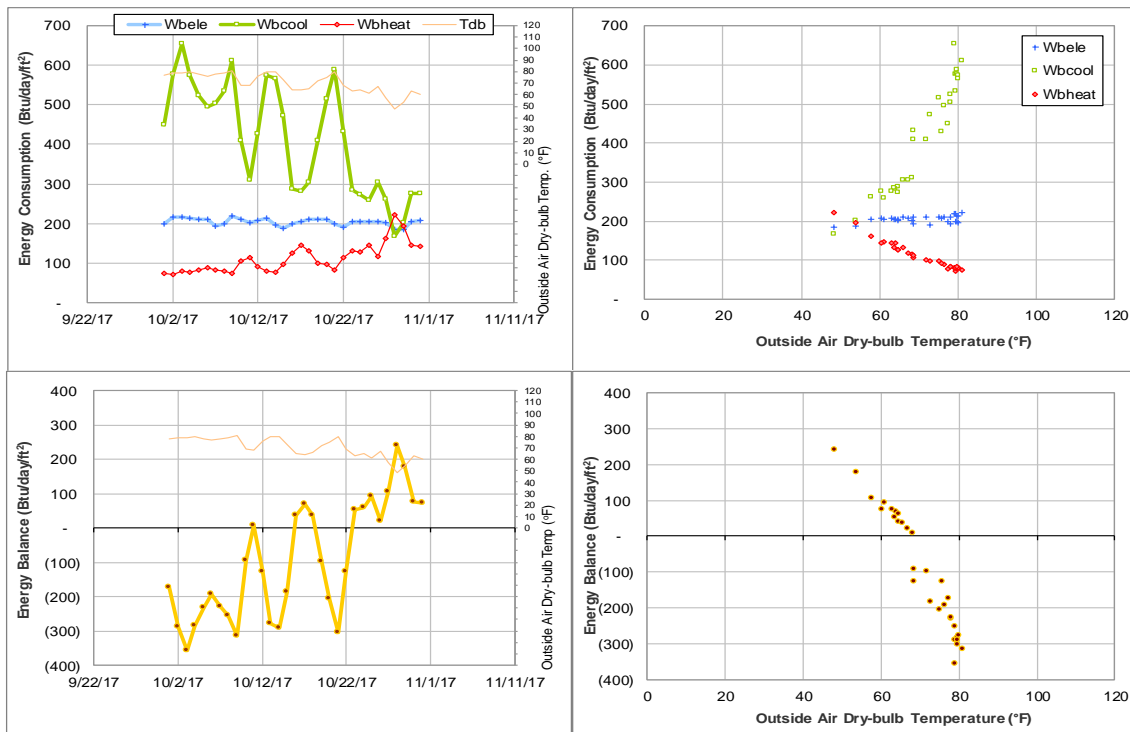


Figure IV-76 Biological Sciences Building - West TAMU BLDG # 449 Energy Balance Plot during October 2017

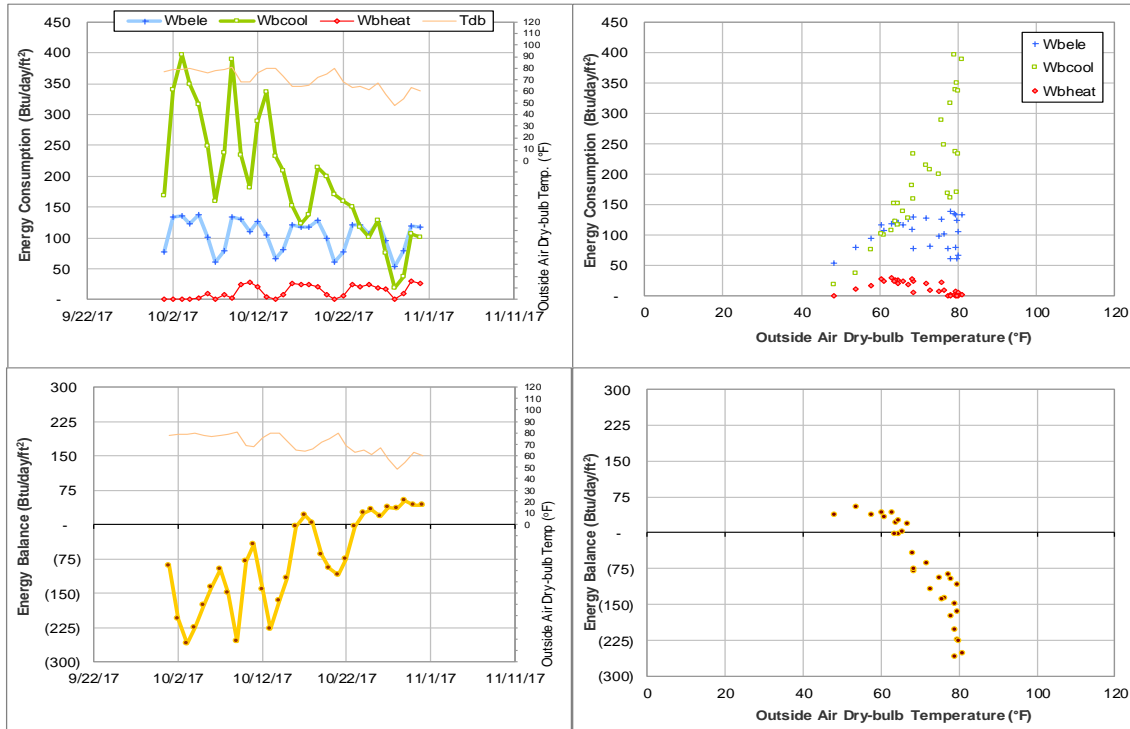


Figure IV-77 Duncan Dining Hall TAMU BLDG # 450 Energy Balance Plot during October 2017

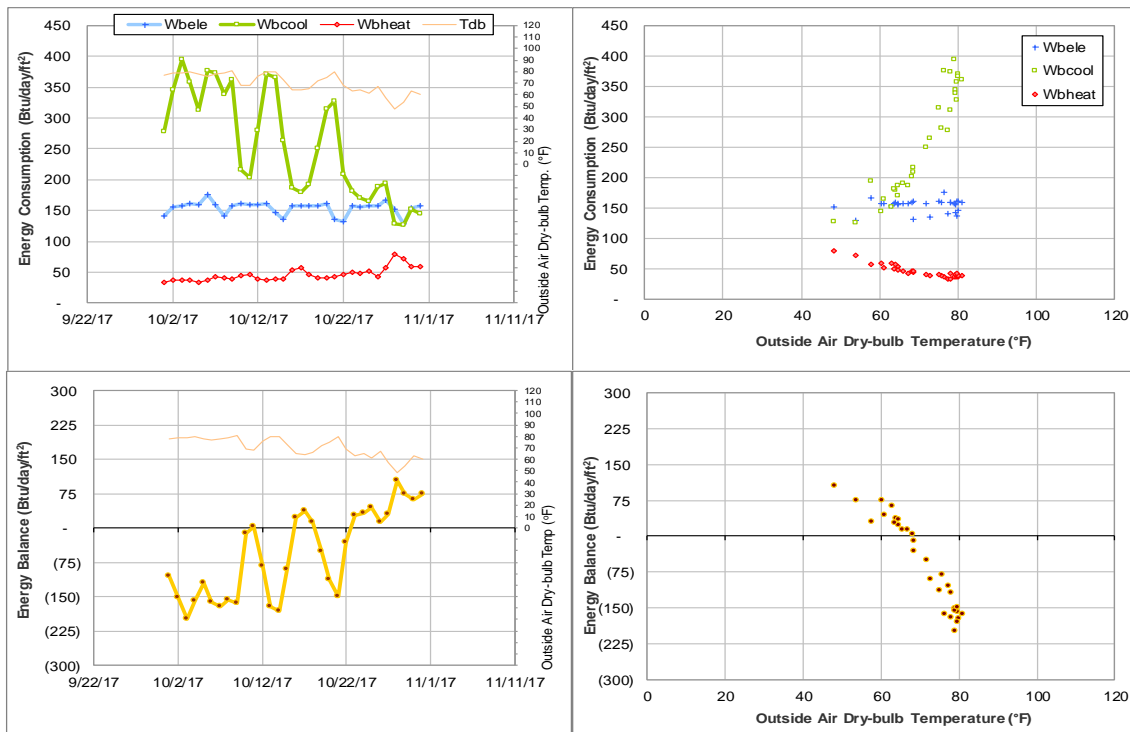


Figure IV-78 MSC TAMU BLDG # 454 Energy Balance Plot during October 2017

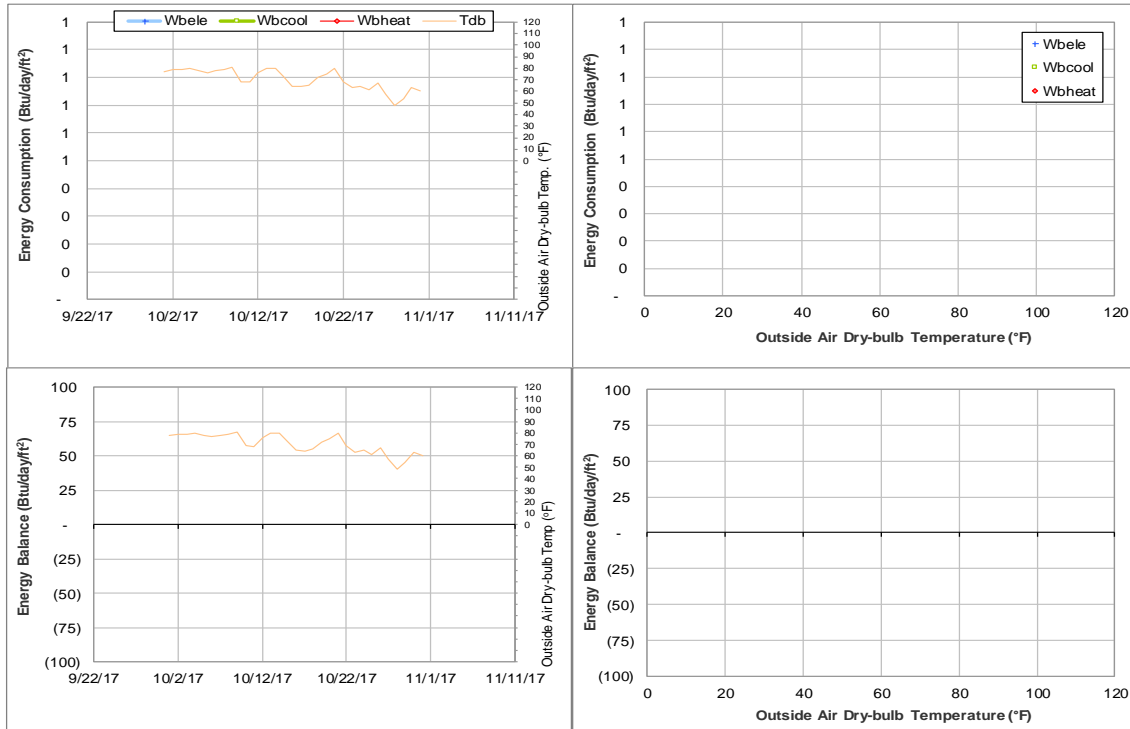


Figure IV-79 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during October 2017

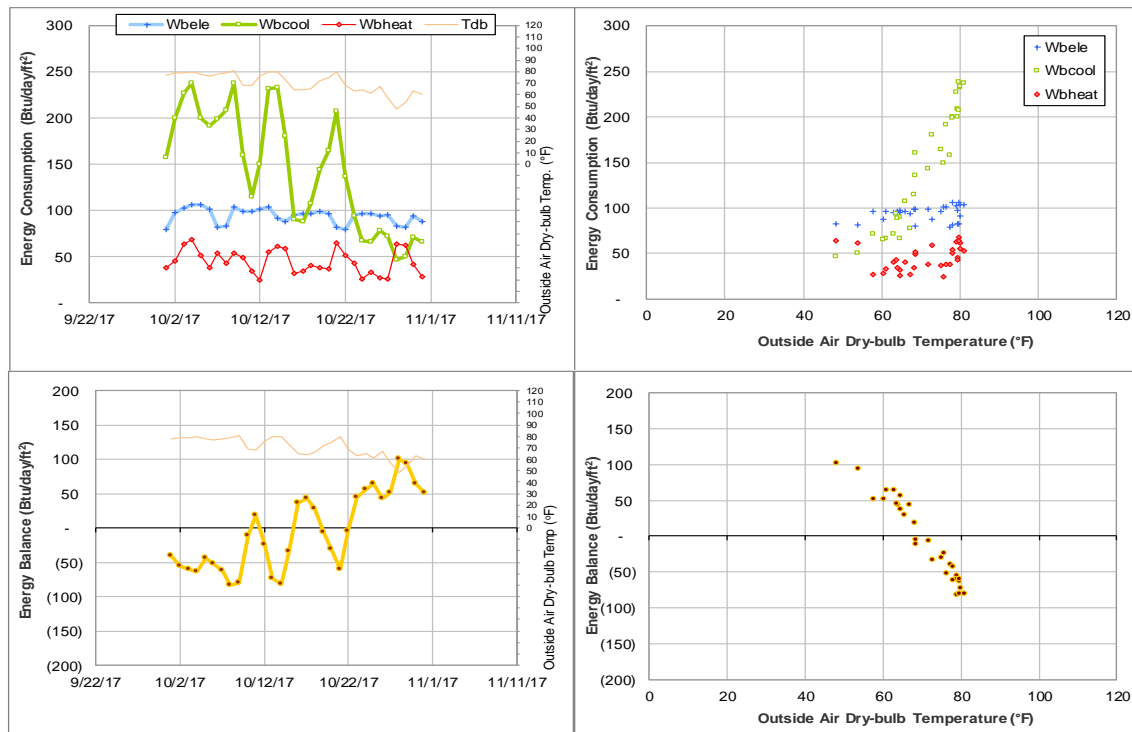


Figure IV-80 TAES Annex Building TAMU BLDG # 457 Energy Balance Plot during October 2017

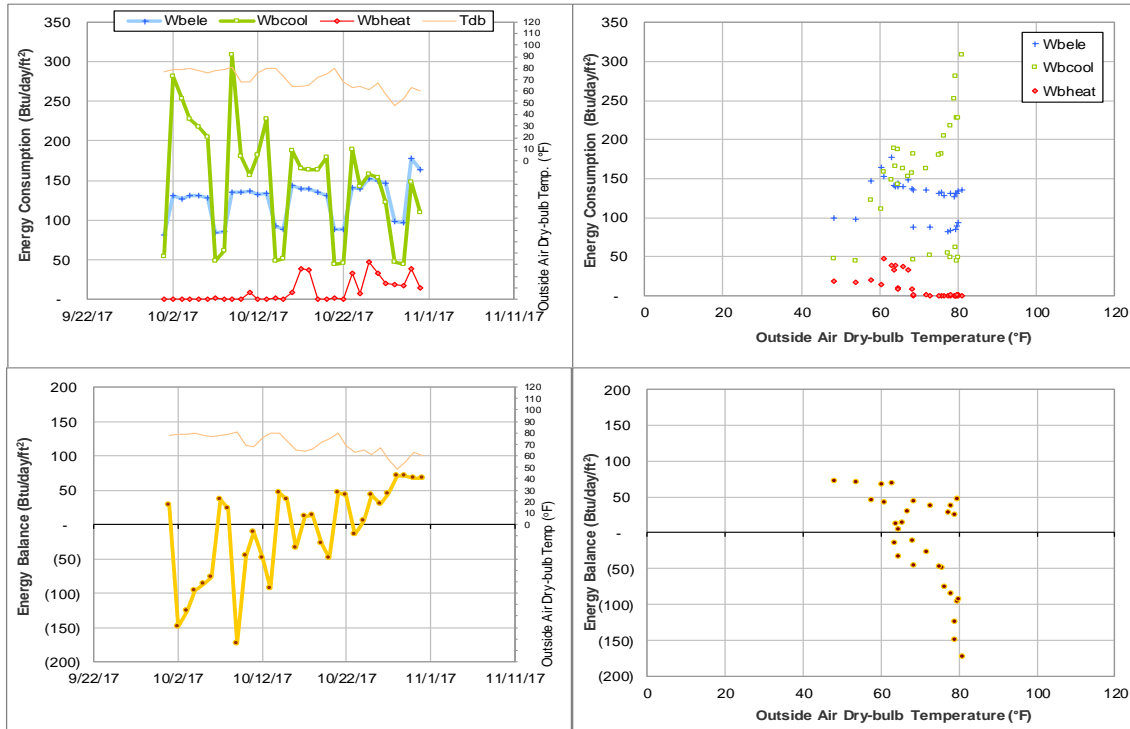


Figure IV-81 Coke Building TAMU BLDG # 461 Energy Balance Plot during October 2017

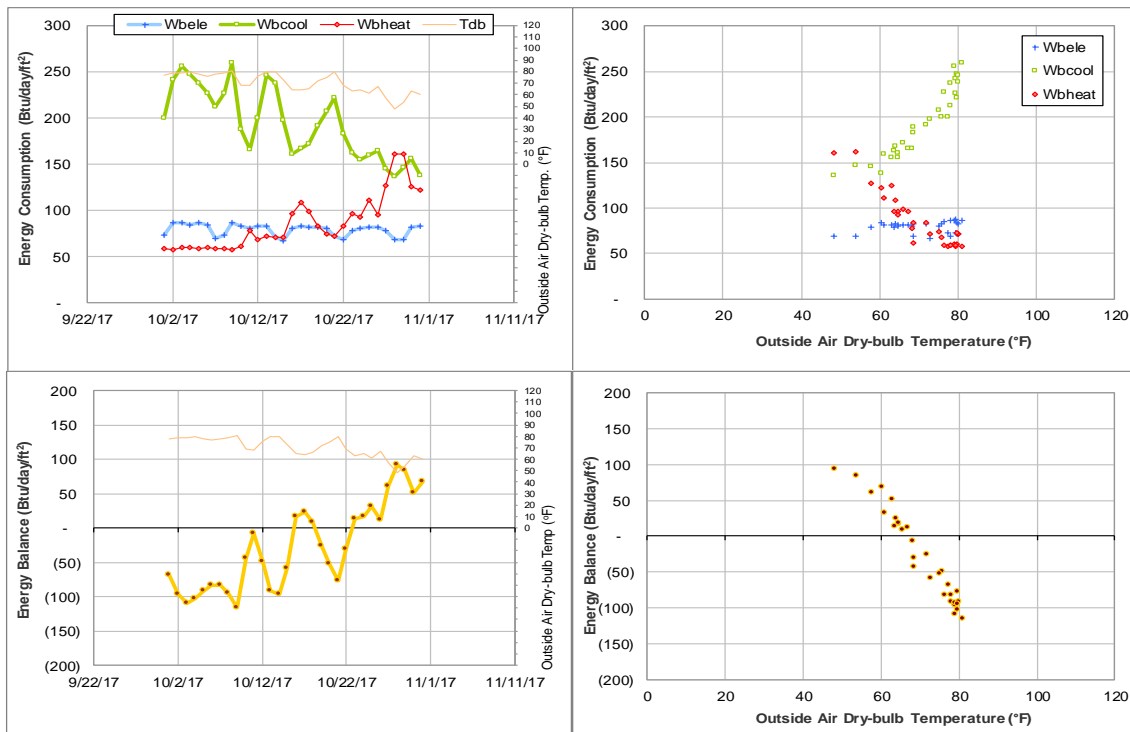


Figure IV-82 Academic Building TAMU BLDG # 462 Energy Balance Plot during October 2017

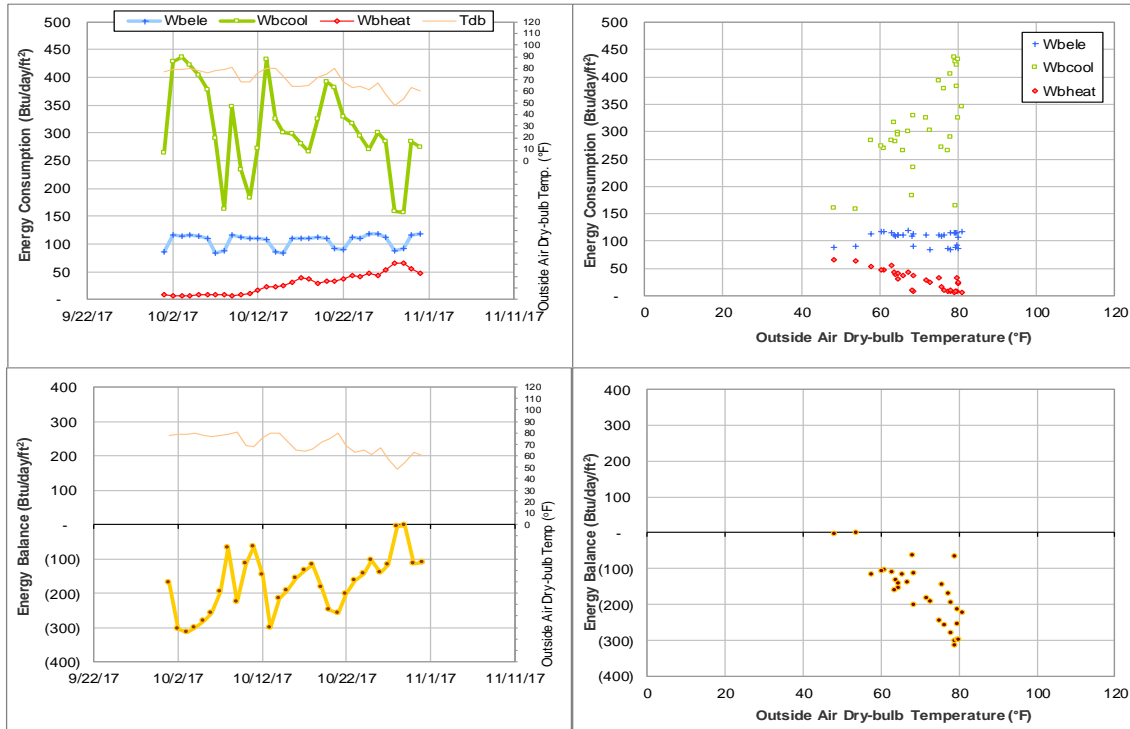


Figure IV-83 Psychology Building TAMU BLDG # 463 Energy Balance Plot during October 2017

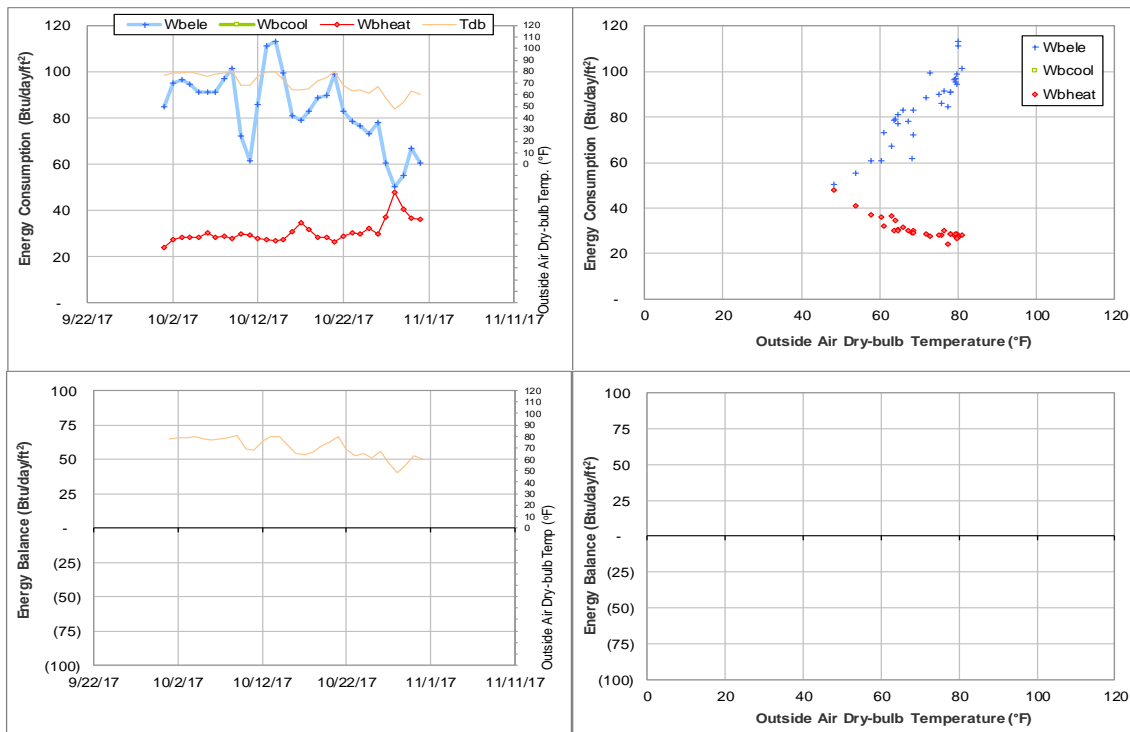


Figure IV-84 State Chemist Building TAMU BLDG # 464 Energy Balance Plot during October 2017

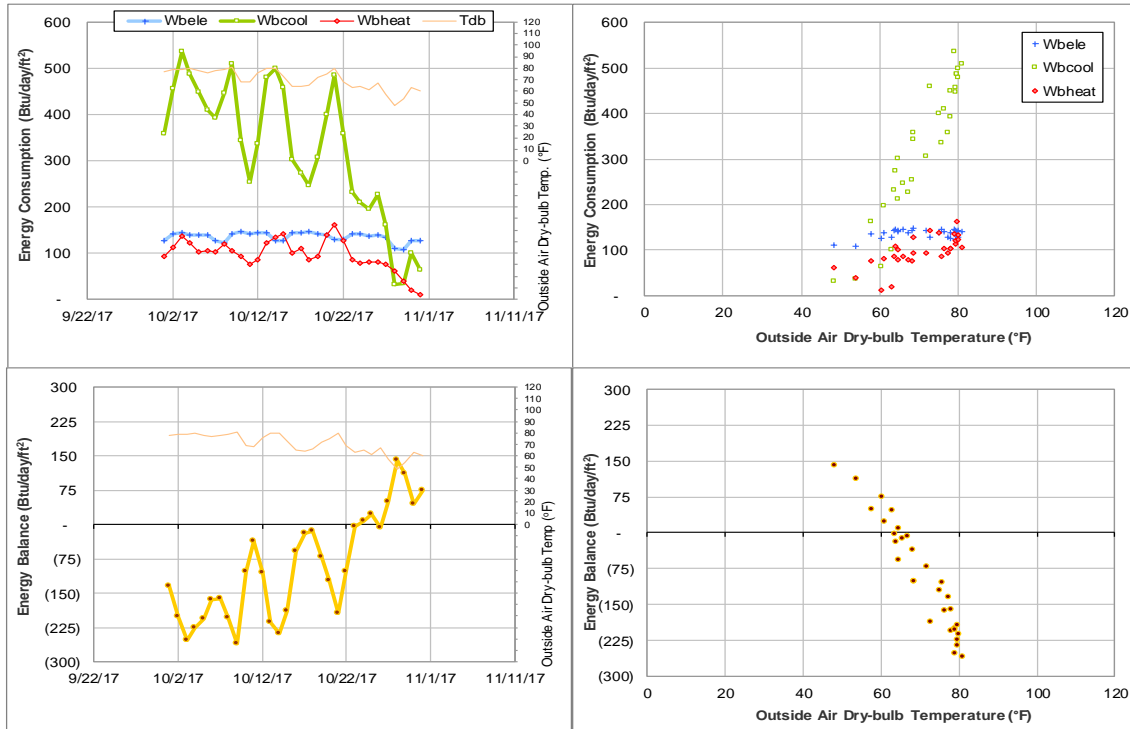


Figure IV-85 Butler Hall TAMU BLDG # 465 Energy Balance Plot during October 2017

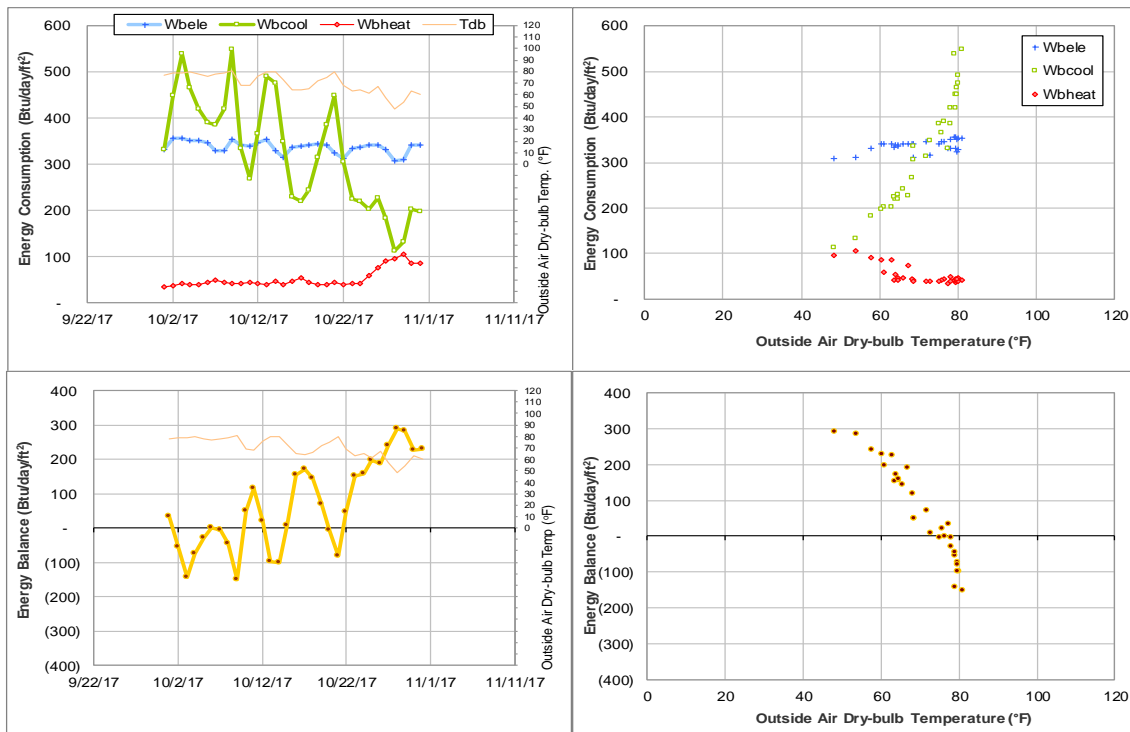


Figure IV-86 Biological Sciences Building - East TAMU BLDG # 467 Energy Balance Plot during October 2017

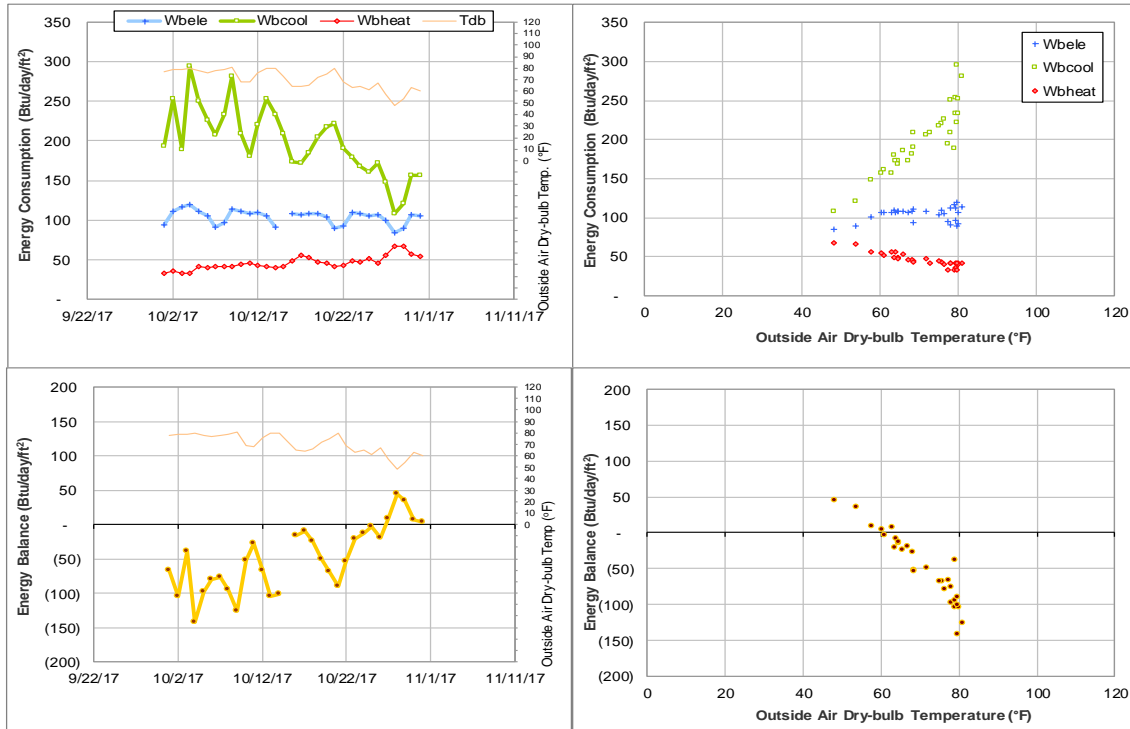


Figure IV-87 Evans Library TAMU BLDG # 468 Energy Balance Plot during October 2017

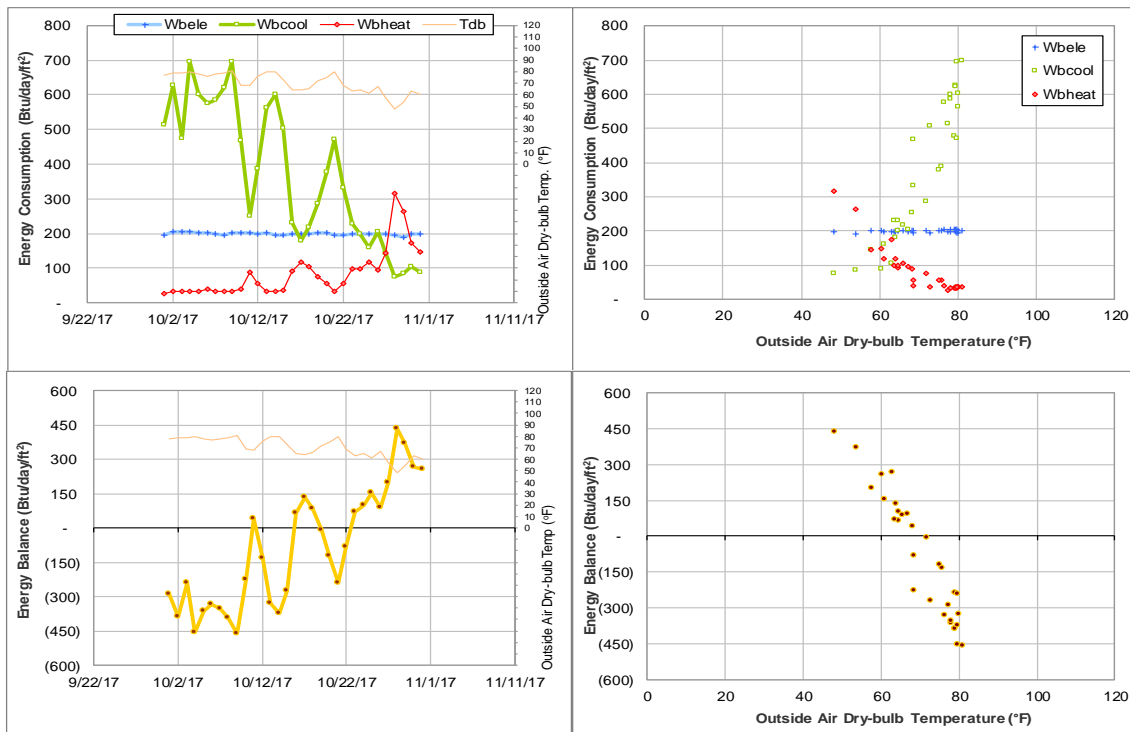


Figure IV-88 Central Campus Parking Garage TAMU BLDG # 469 Energy Balance Plot during October 2017

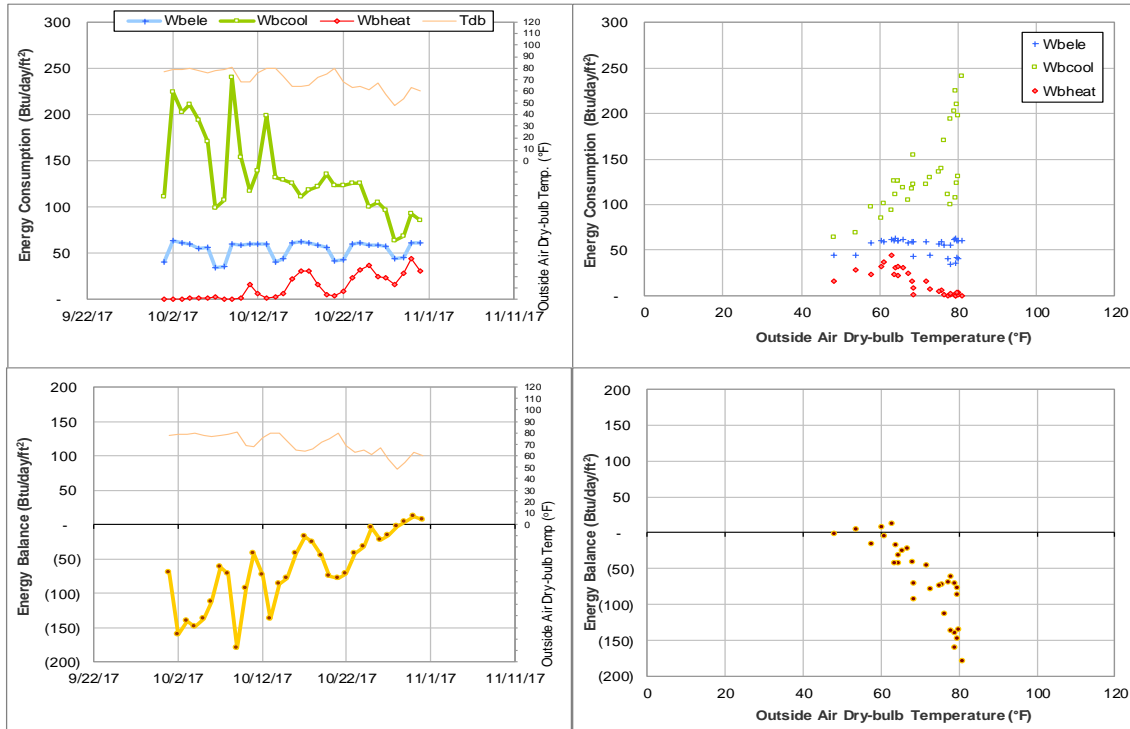


Figure IV-89 Glasscock History Bldg TAMU BLDG # 470 Energy Balance Plot during October 2017

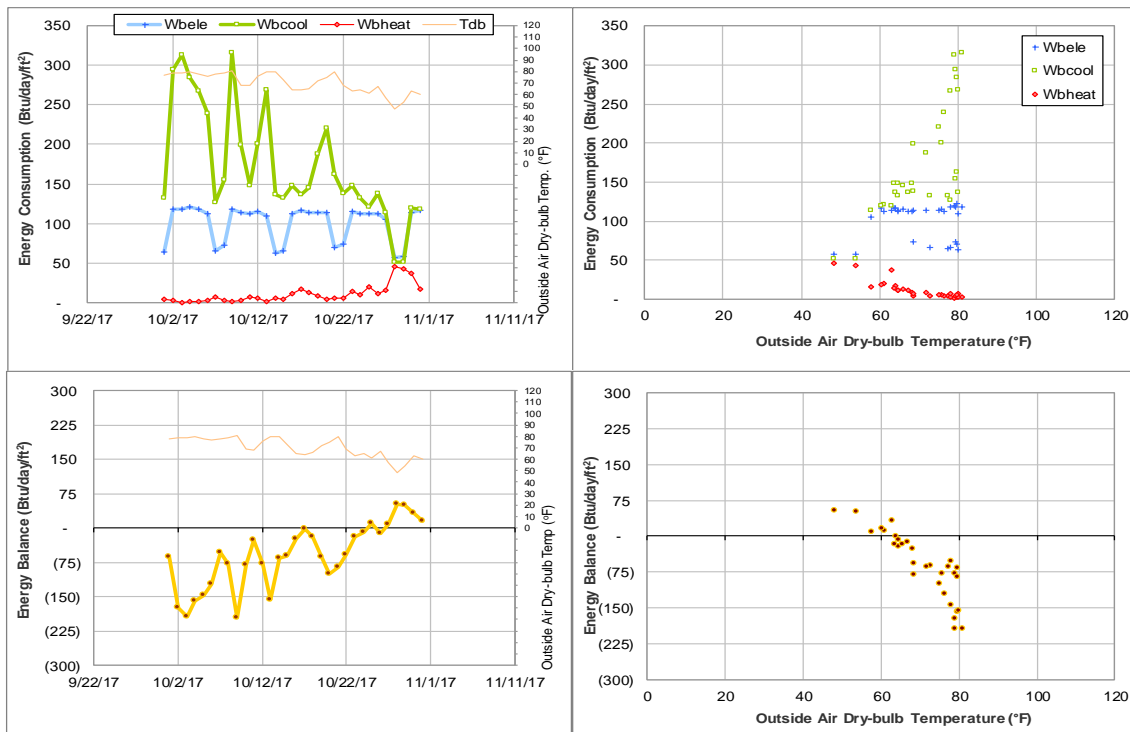


Figure IV-90 Pavilion TAMU BLDG # 471 Energy Balance Plot during October 2017



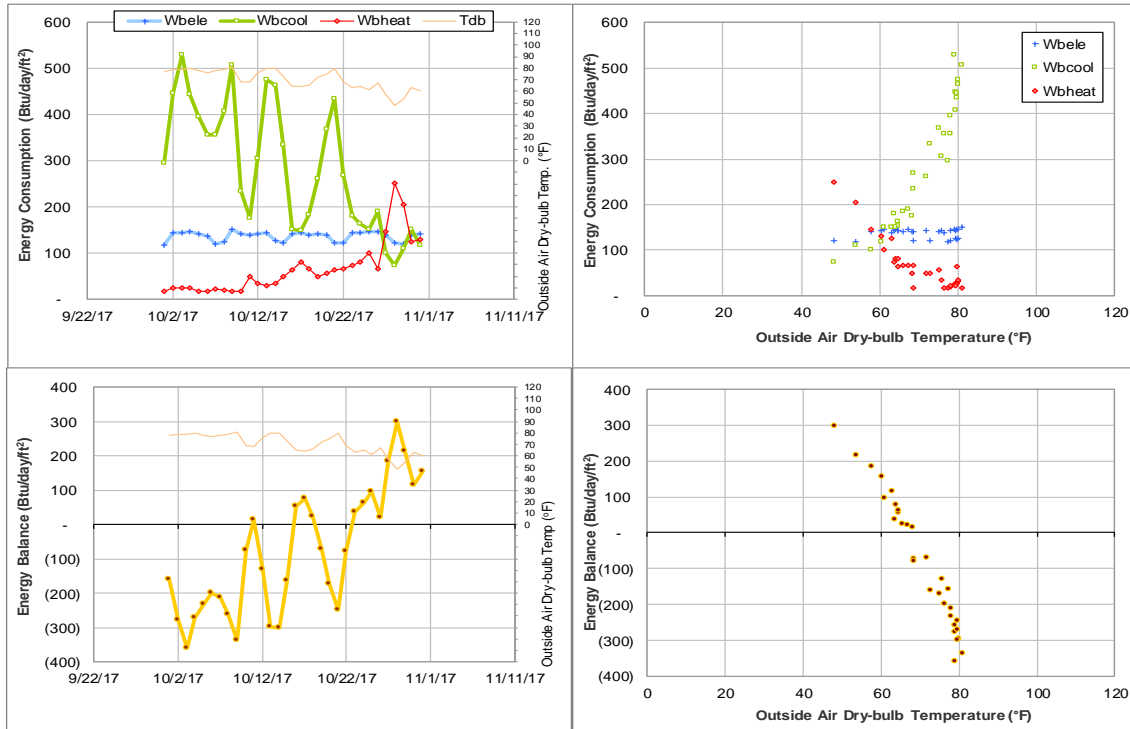


Figure IV-91 Animal Industries TAMU BLDG # 472 Energy Balance Plot during October 2017

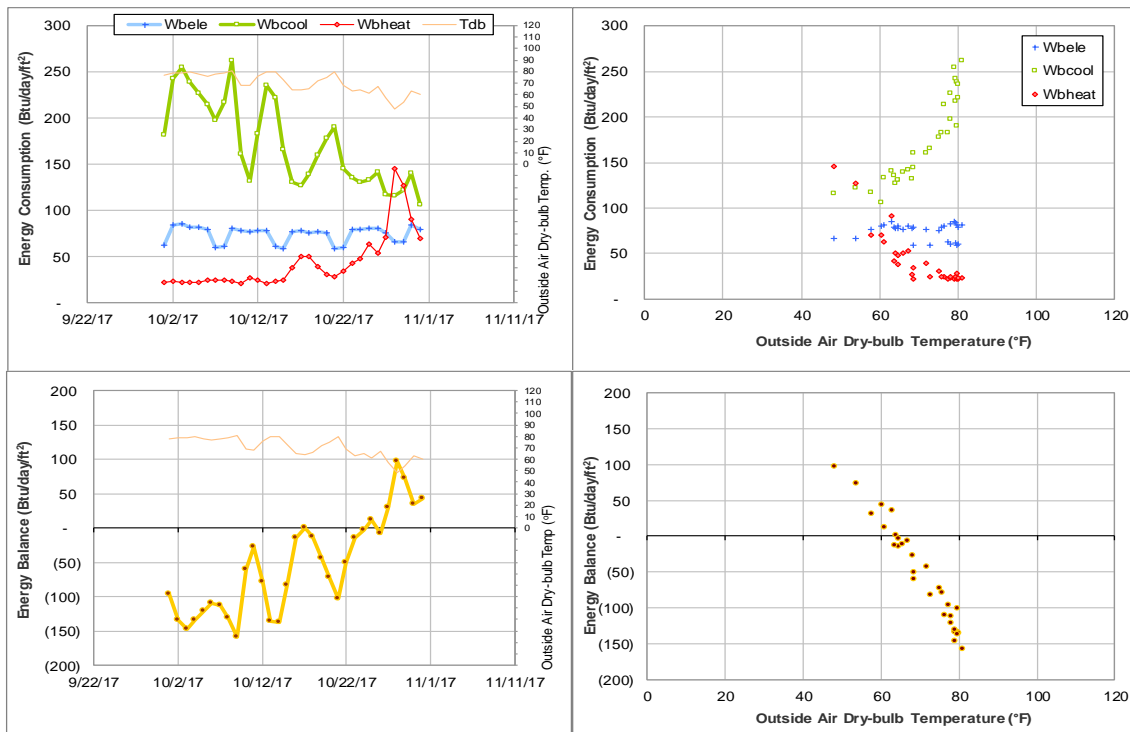


Figure IV-92 Williams Administration Building TAMU BLDG # 473 Energy Balance Plot during October 2017

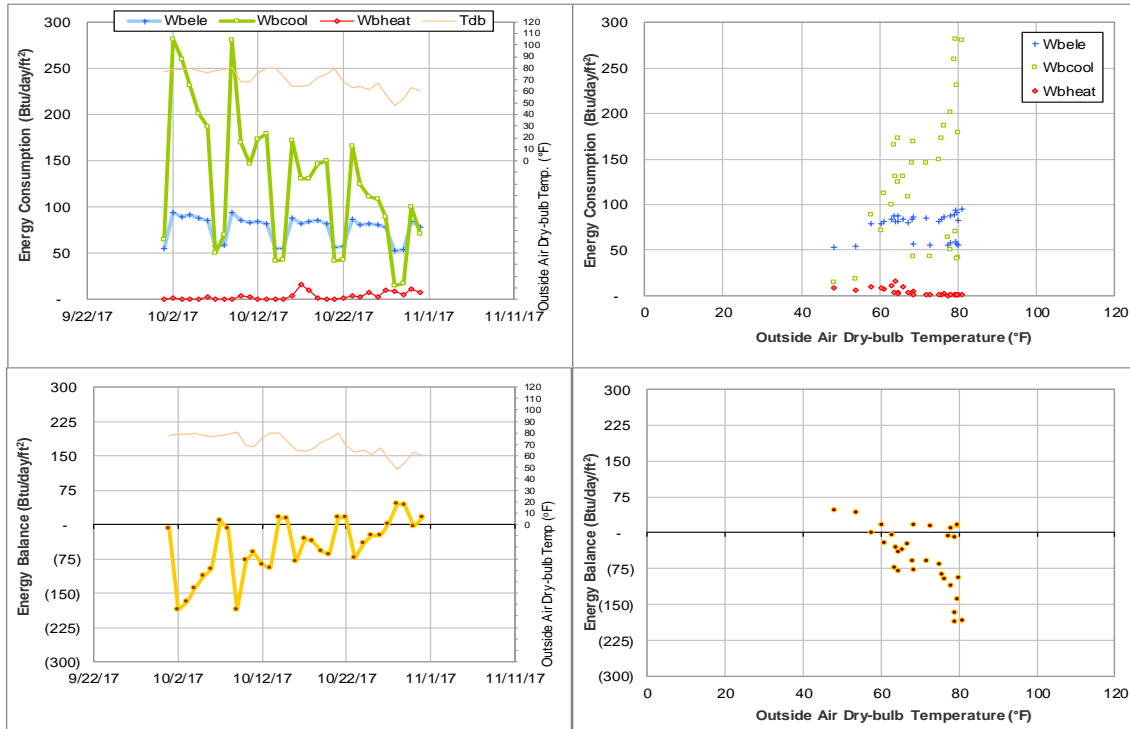


Figure IV-93 YMCA Building TAMU BLDG # 474 Energy Balance Plot during October 2017

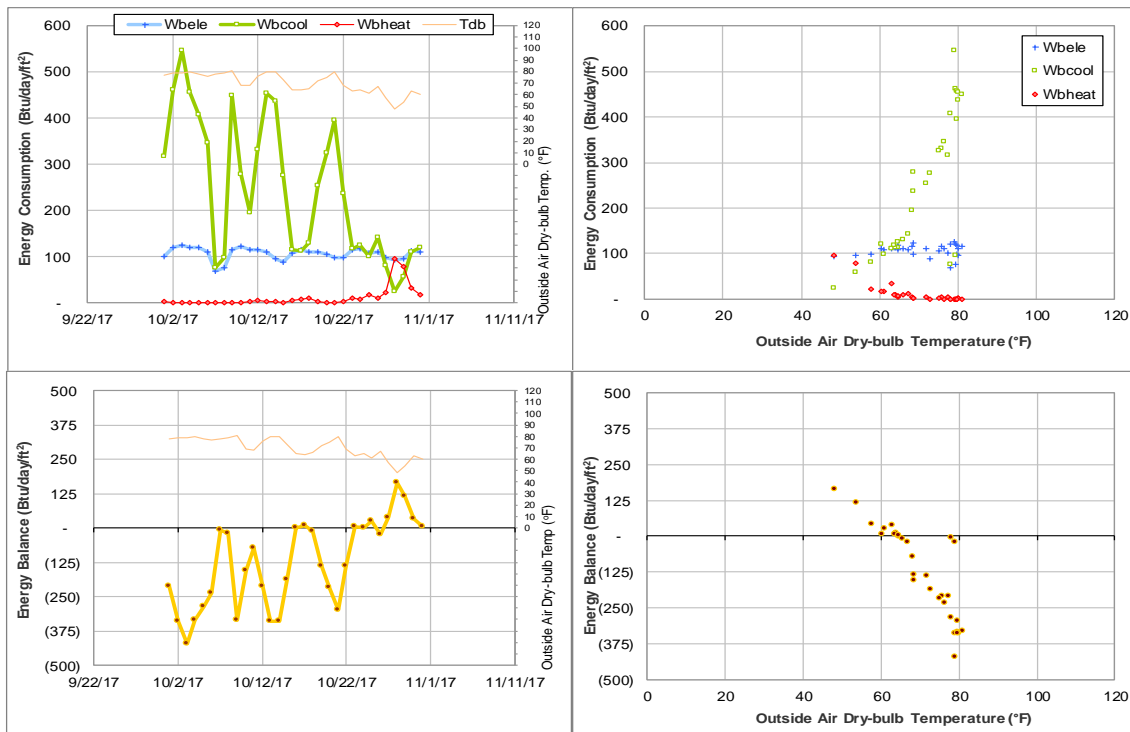


Figure IV-94 Francis Hall TAMU BLDG # 476 Energy Balance Plot during October 2017

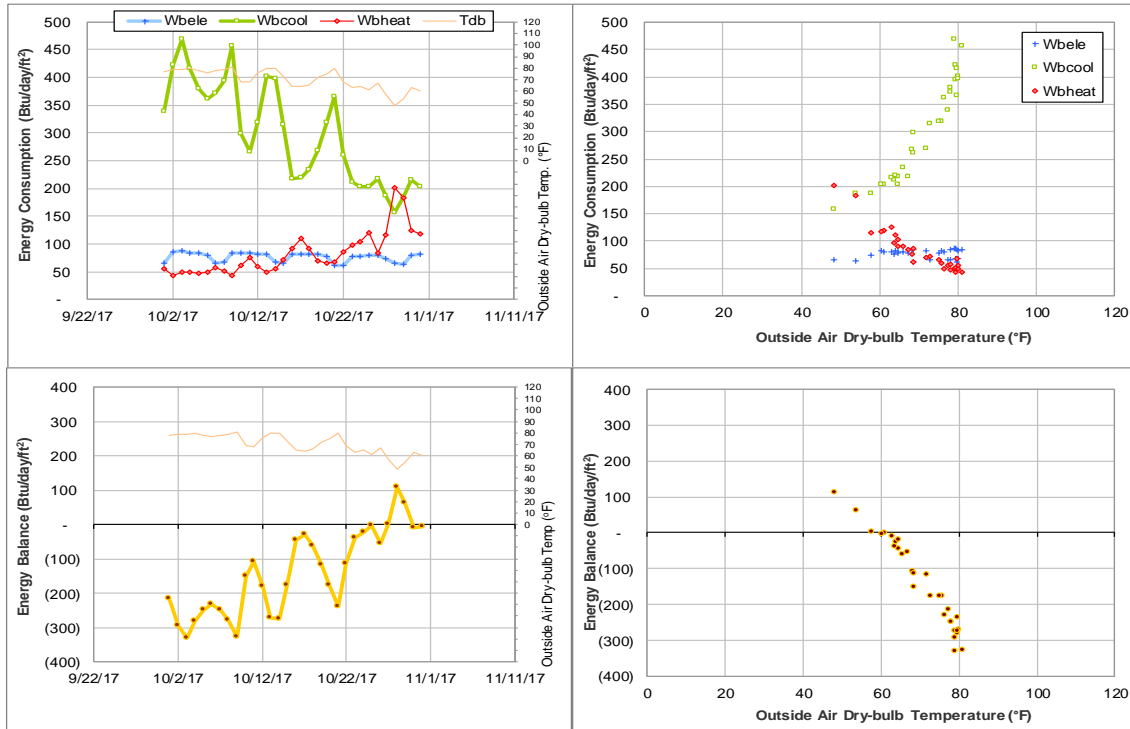


Figure IV-95 Anthropology Building TAMU BLDG # 477 Energy Balance Plot during October 2017

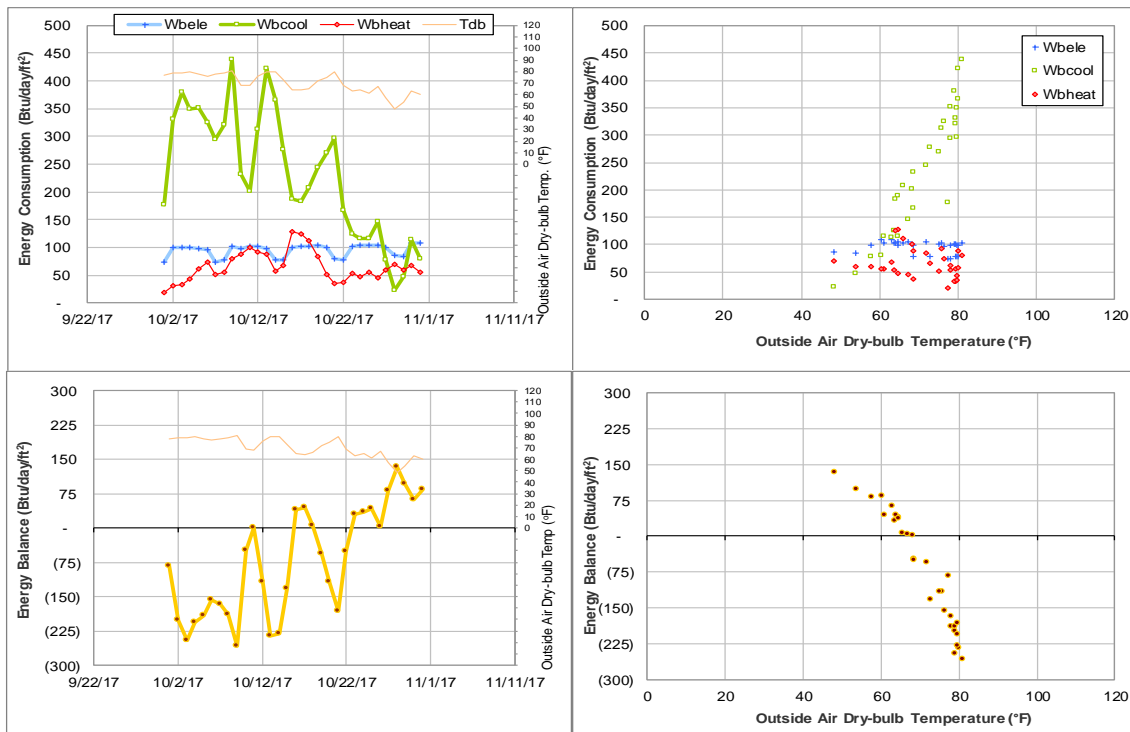


Figure IV-96 Scoates Hall TAMU BLDG # 478 Energy Balance Plot during October 2017

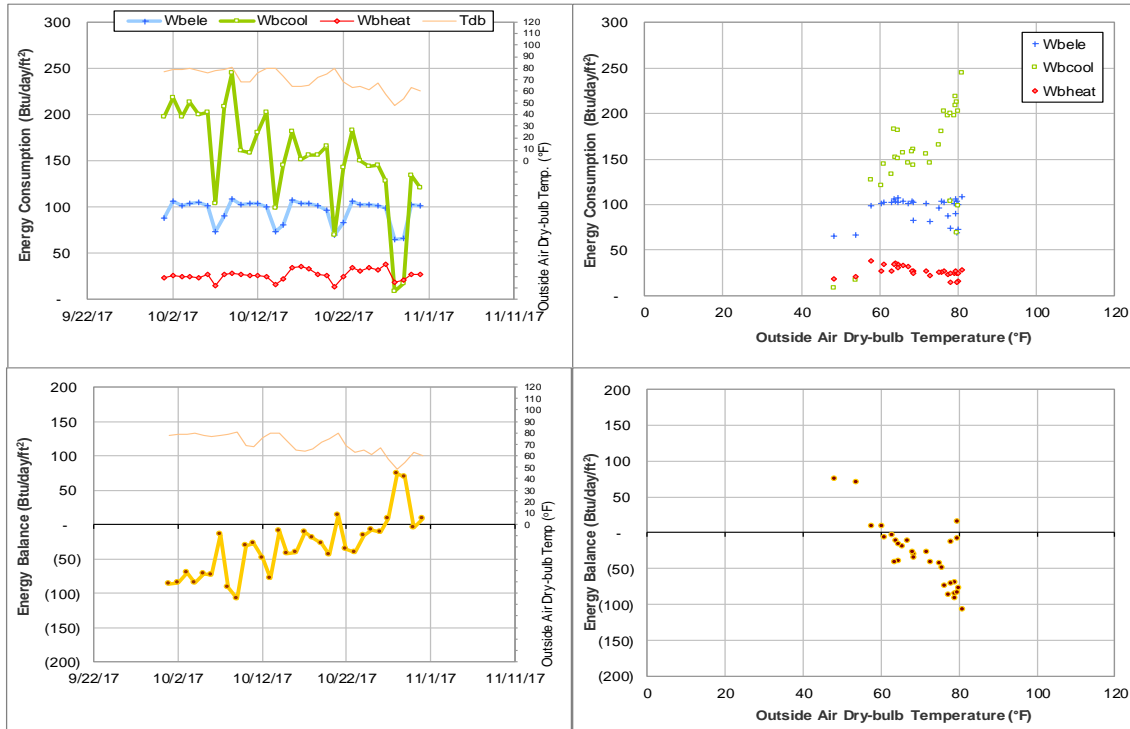


Figure IV-97 Bolton Hall TAMU BLDG # 480 Energy Balance Plot during October 2017

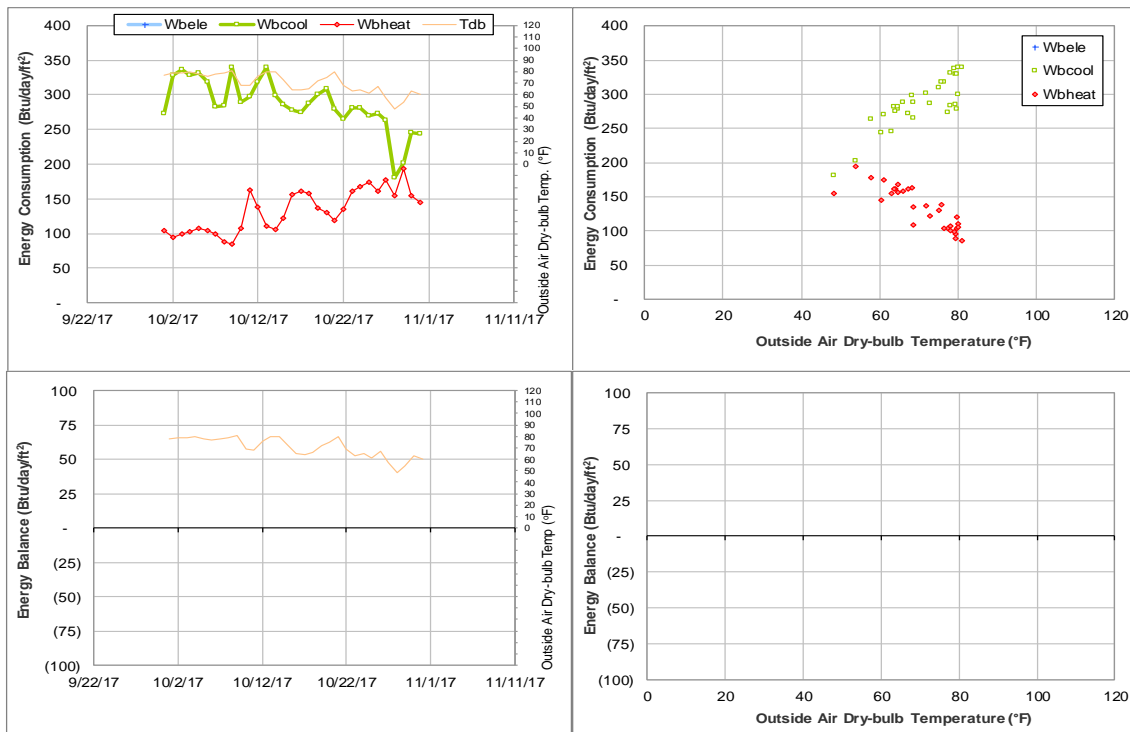


Figure IV-98 Heaton Hall TAMU BLDG # 481 Energy Balance Plot during October 2017

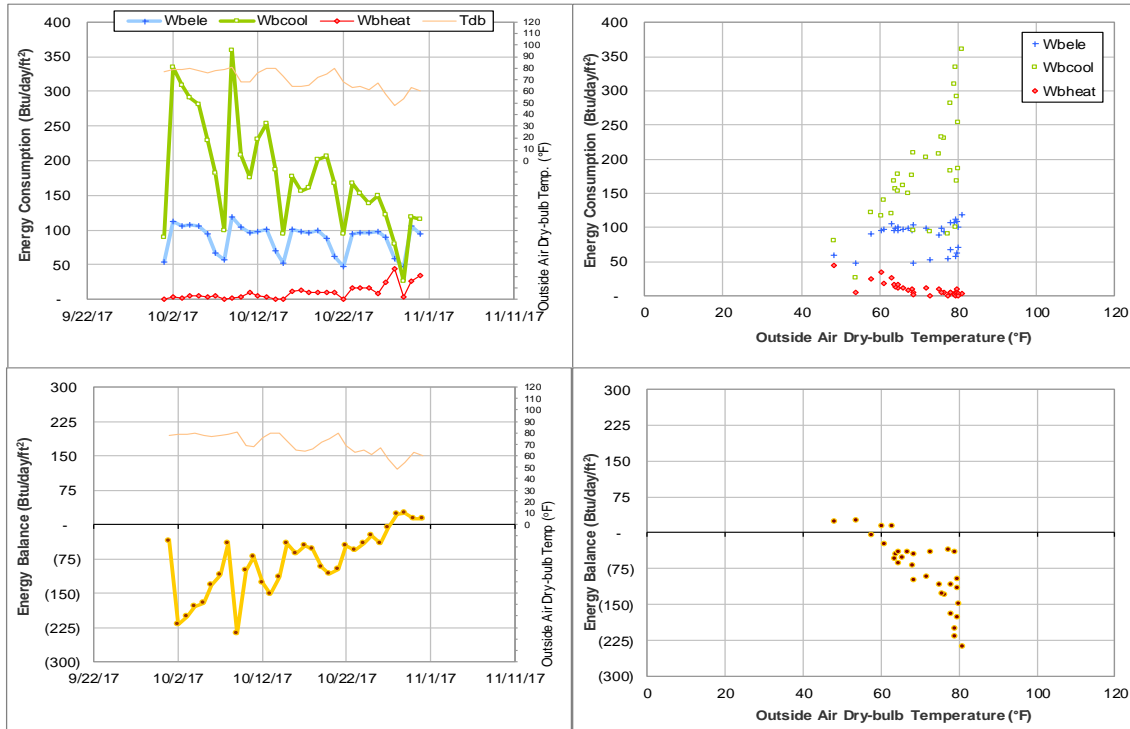


Figure IV-99 Fermier Hall TAMU BLDG # 482 Energy Balance Plot during October 2017

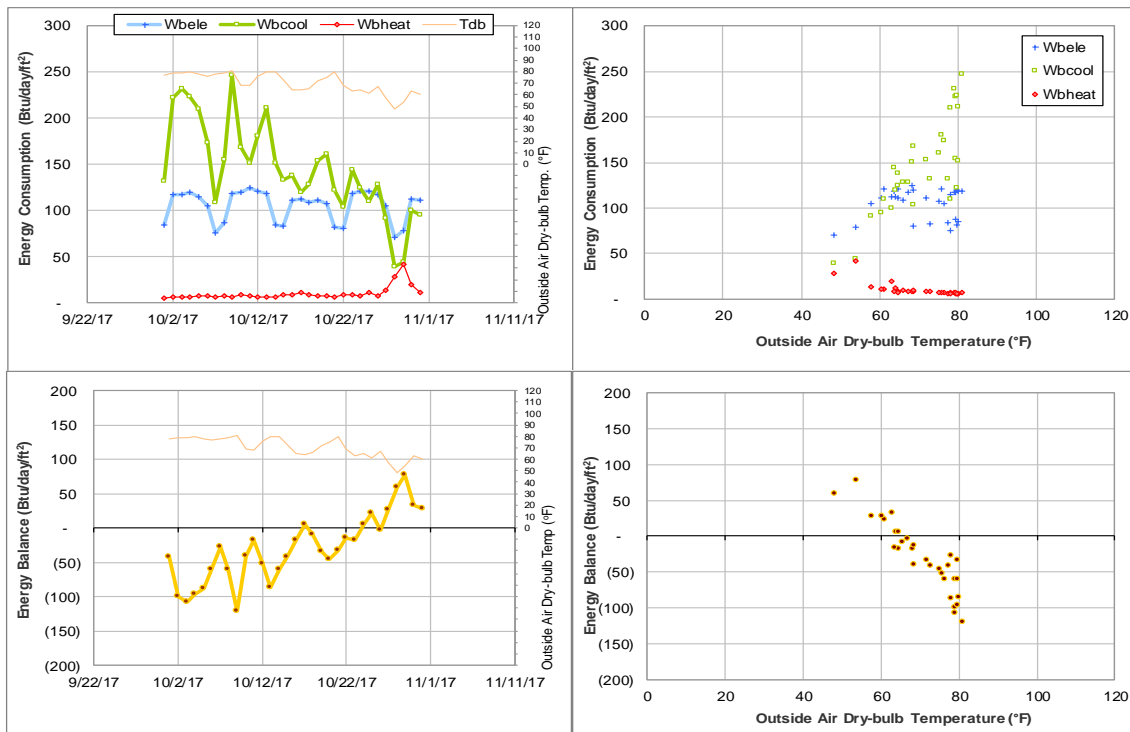


Figure IV-100 Thompson Hall TAMU BLDG # 483 Energy Balance Plot during October 2017

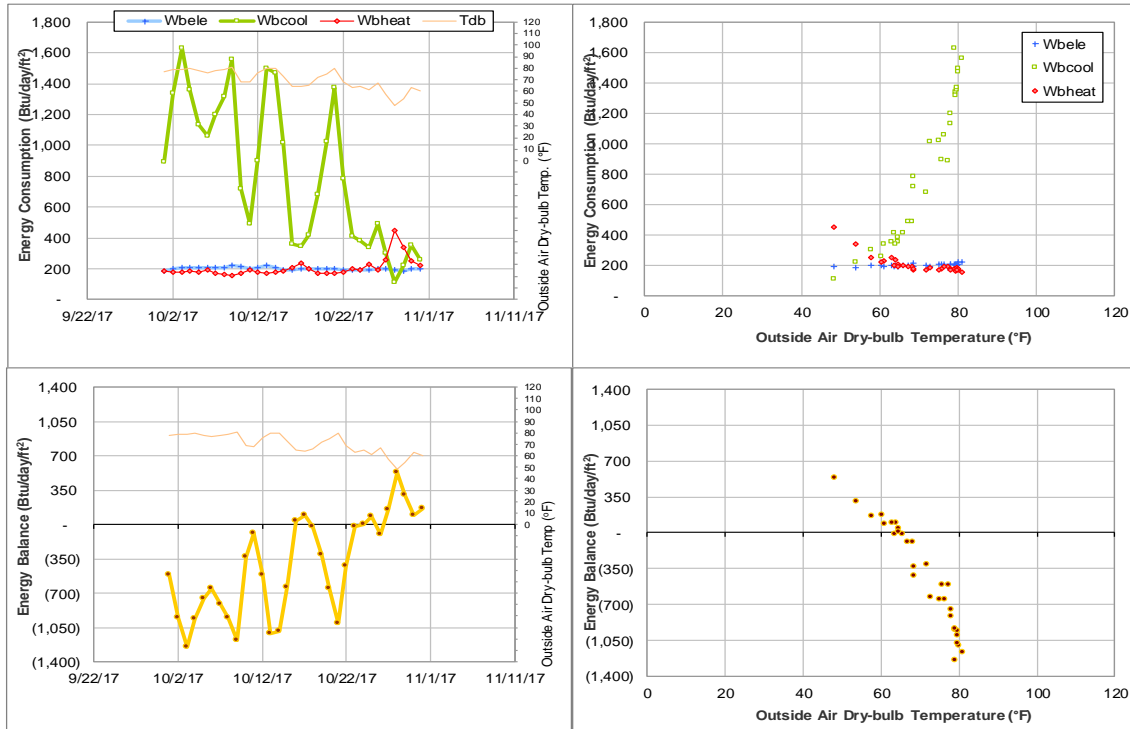


Figure IV-101 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during October 2017

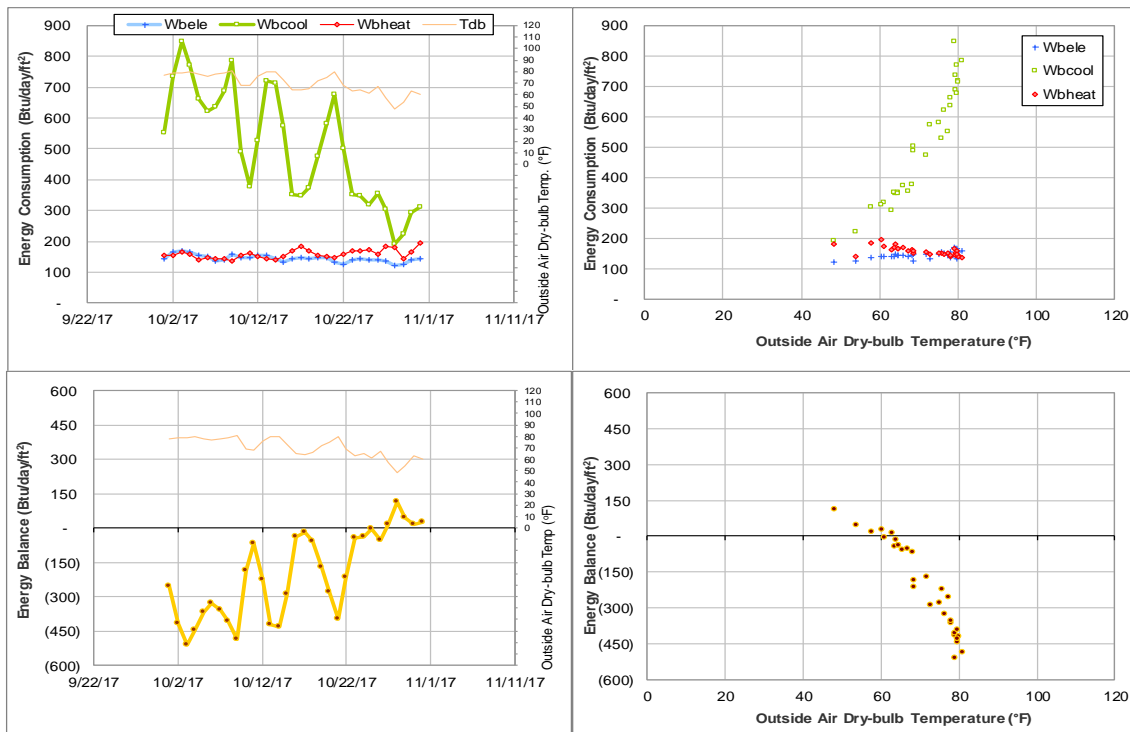


Figure IV-102 Halbouty Geosciences Building TAMU BLDG # 490 Energy Balance Plot during October 2017

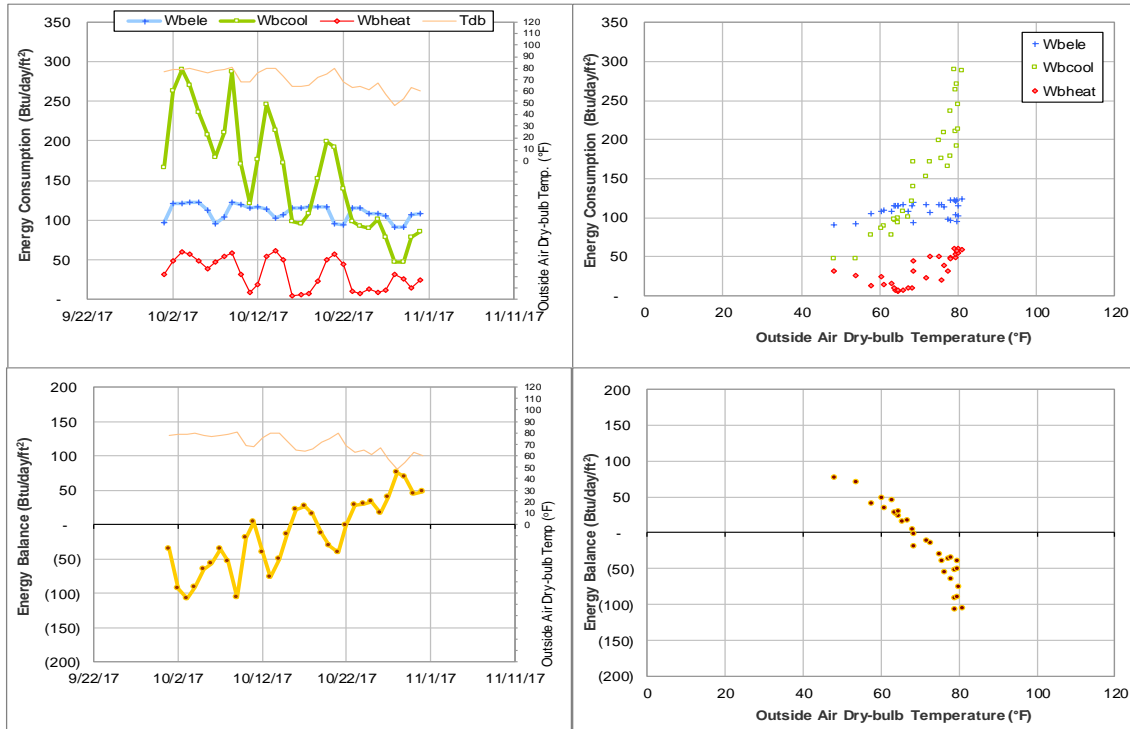


Figure IV-103 Civil Engineering Building TAMU BLDG # 492 Energy Balance Plot during October 2017

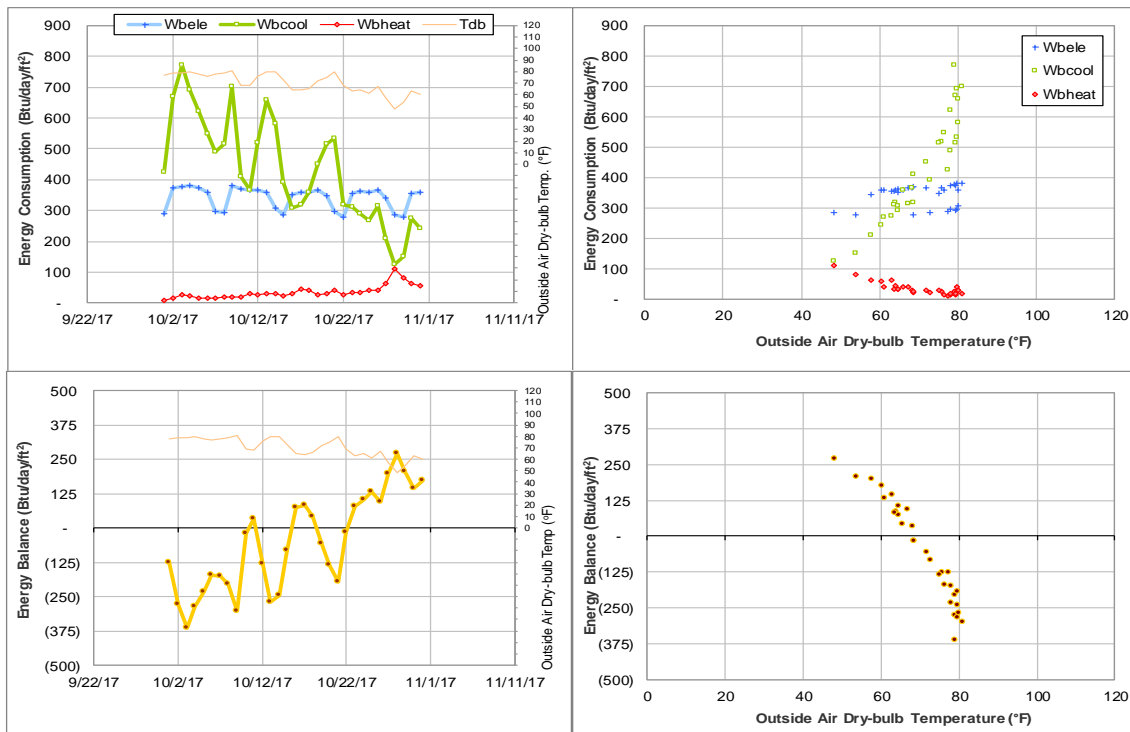


Figure IV-104 Sbis Dining Hall TAMU BLDG # 495 Energy Balance Plot during October 2017

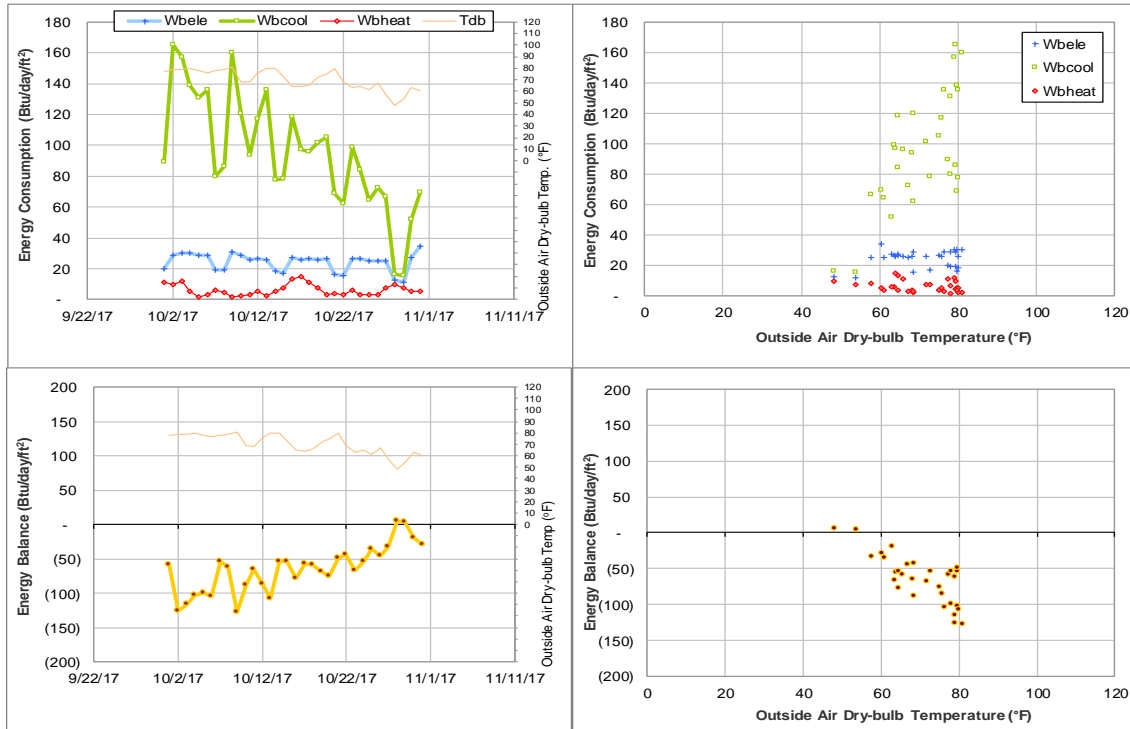


Figure IV-105 Utilities & Energy Services Central Office TAMU BLDG # 496 Energy Balance Plot during October 2017

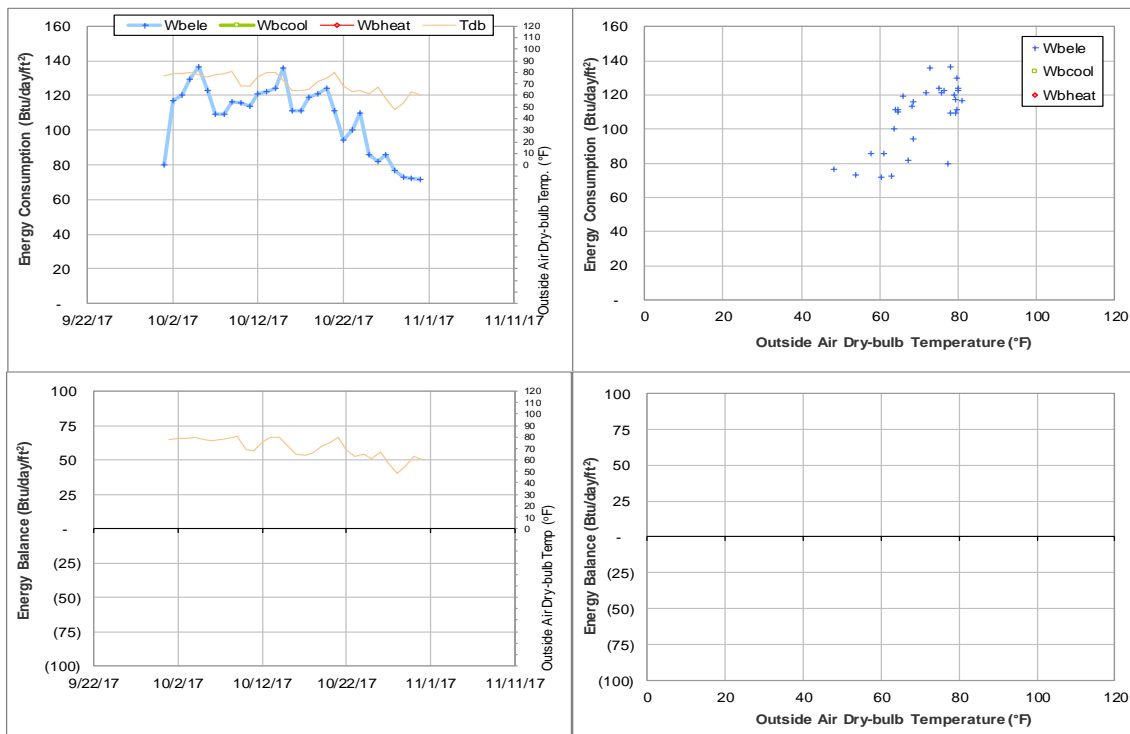


Figure IV-106 Concrete Materials Laboratory TAMU BLDG # 501 Energy Balance Plot during October 2017



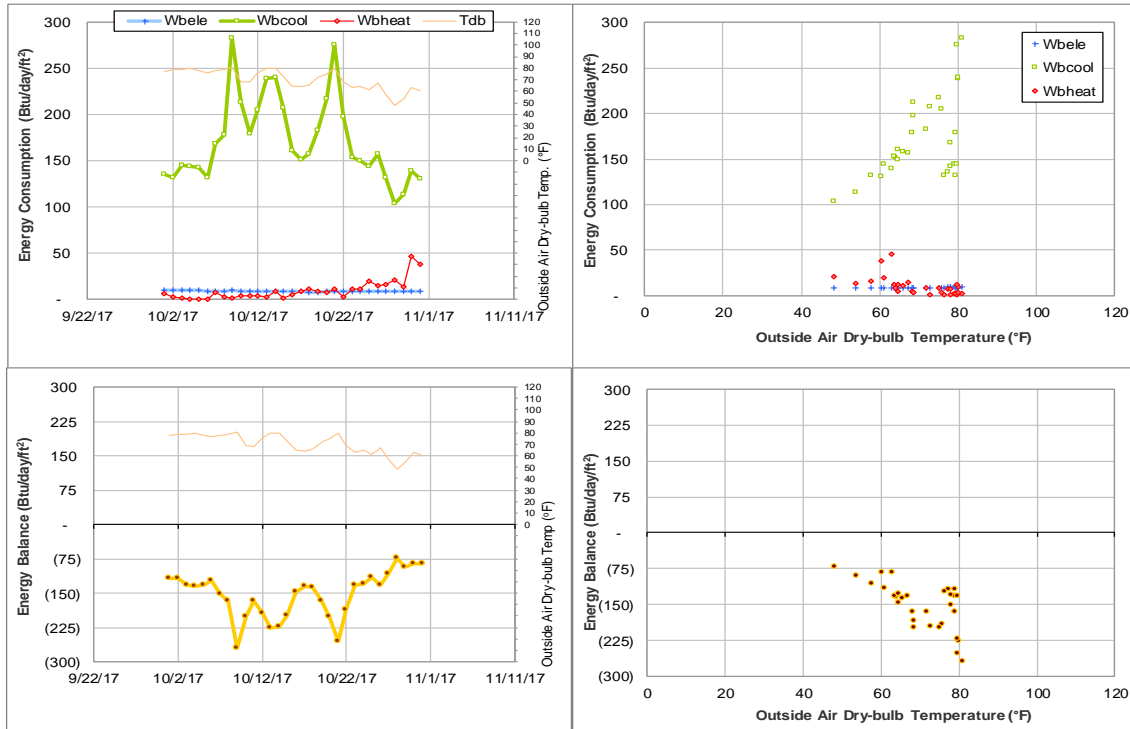


Figure IV-107 Nagle Hall TAMU BLDG # 506 Energy Balance Plot during October 2017

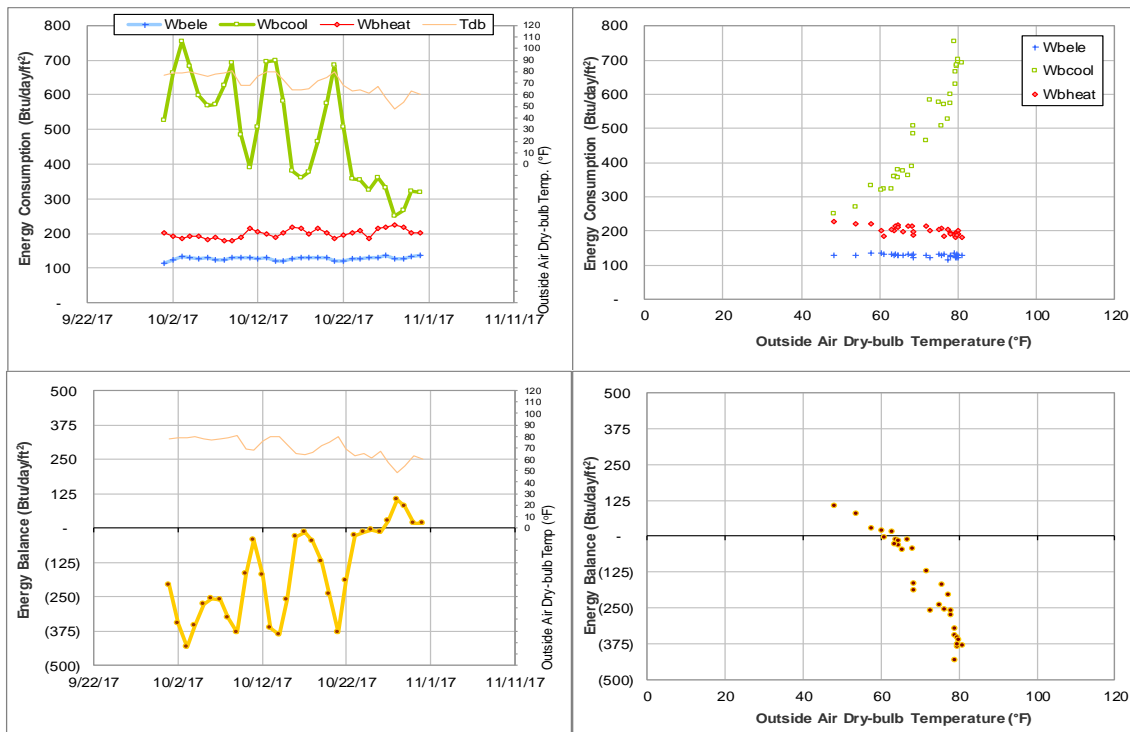


Figure IV-108 Veterinary Medical Science Building TAMU BLDG # 507 Energy Balance Plot during October 2017

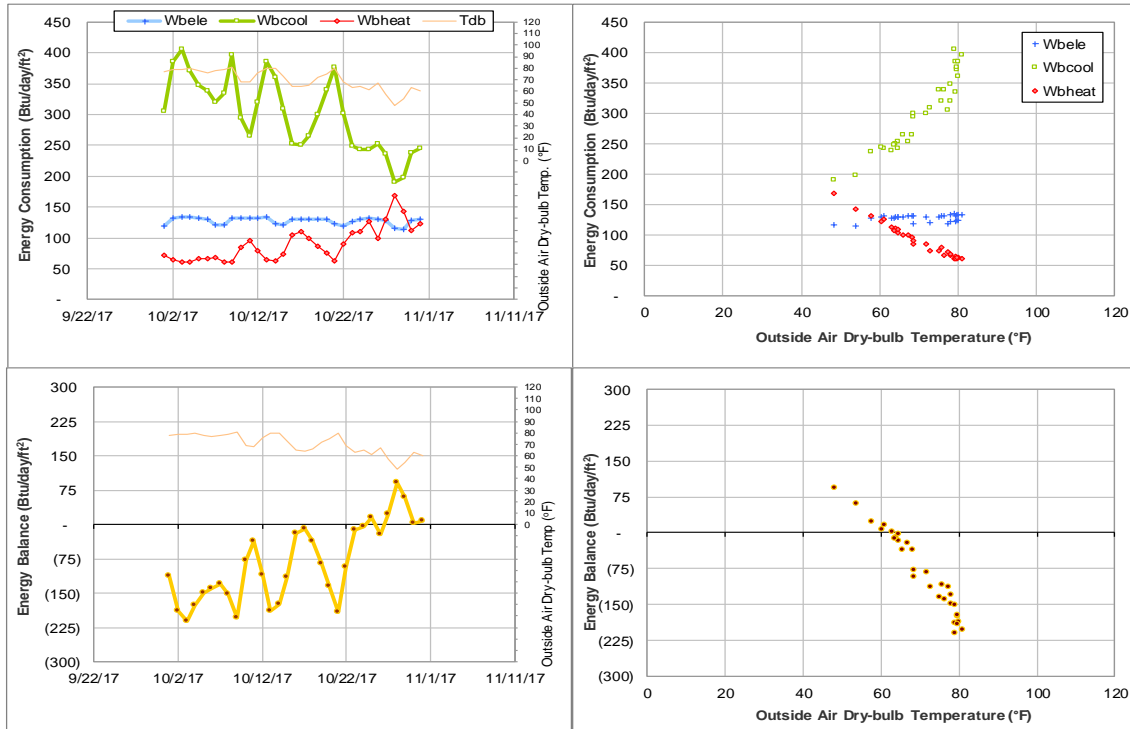


Figure IV-109 Veterinary Teaching Hospital and Med Adm TAMU BLDG # 508 and #1026 Energy Balance Plot during October 2017

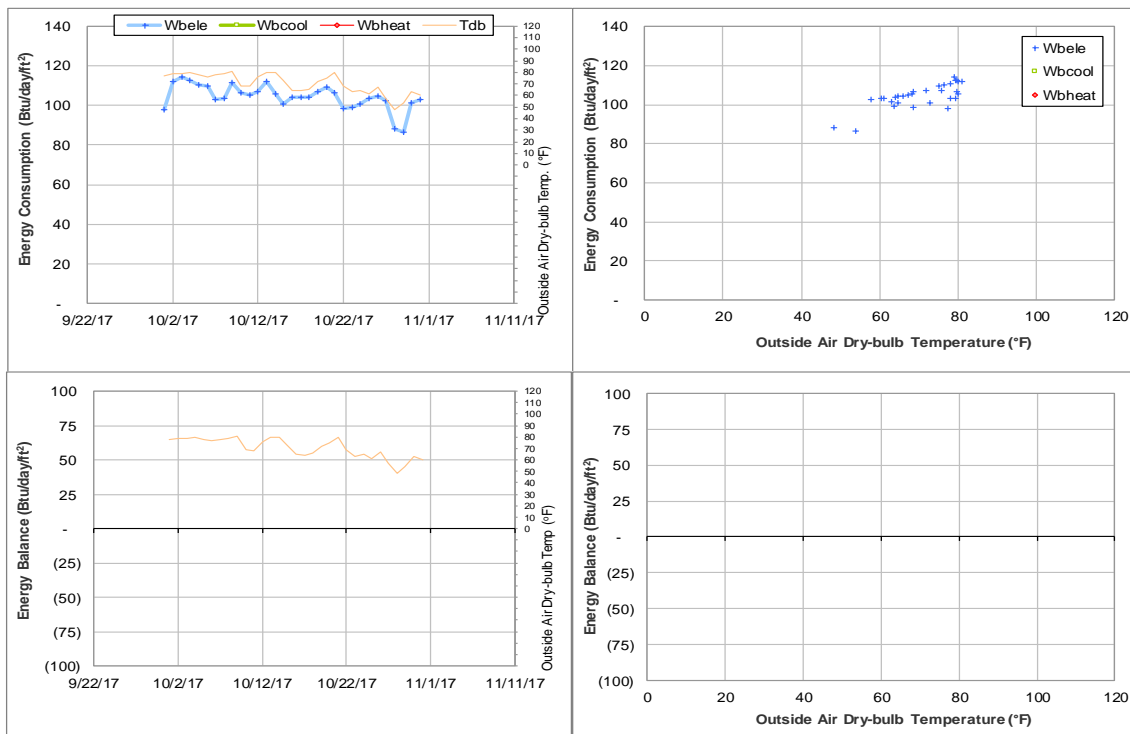


Figure IV-110 Veterinary Teaching Hospital TAMU BLDG # 508 Energy Balance Plot during October 2017

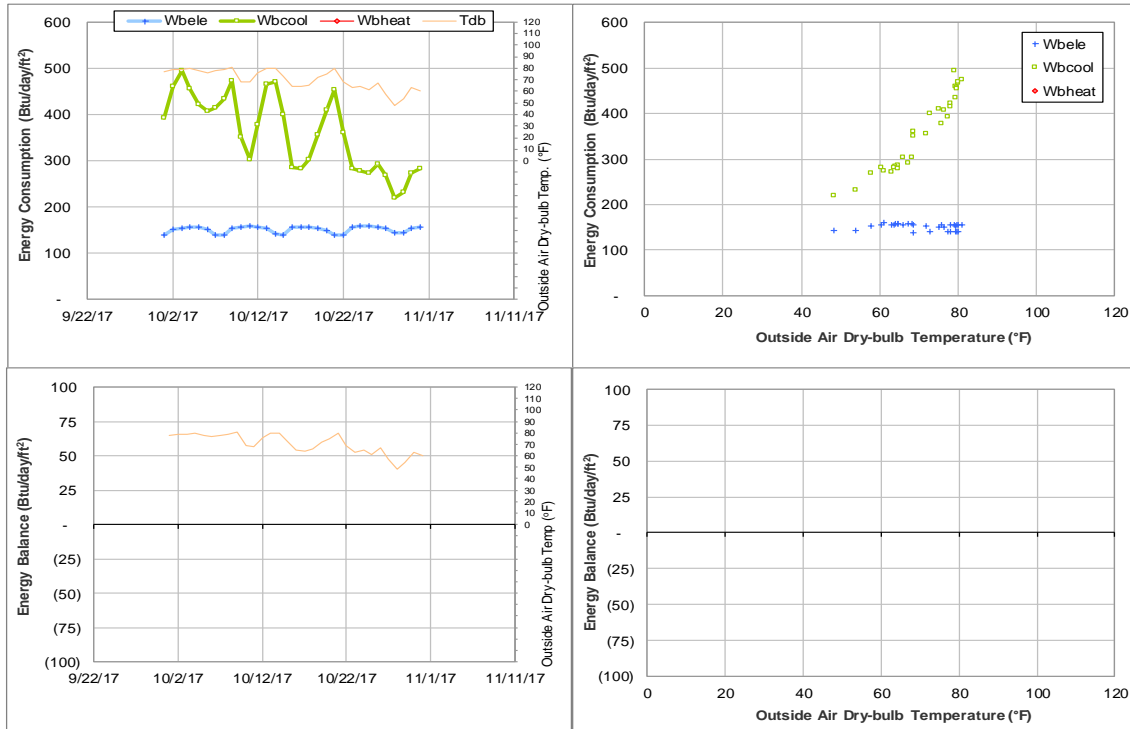


Figure IV-111 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during October 2017

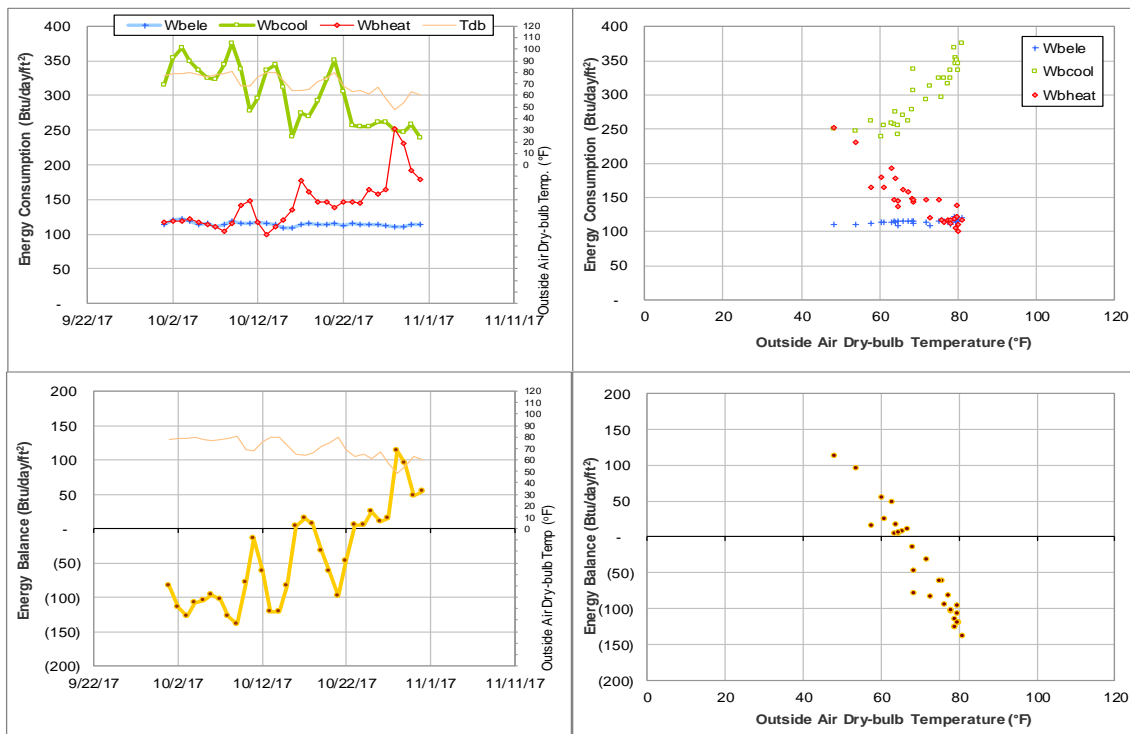


Figure IV-112 Heep Laboratory Building TAMU BLDG # 511 Energy Balance Plot during October 2017

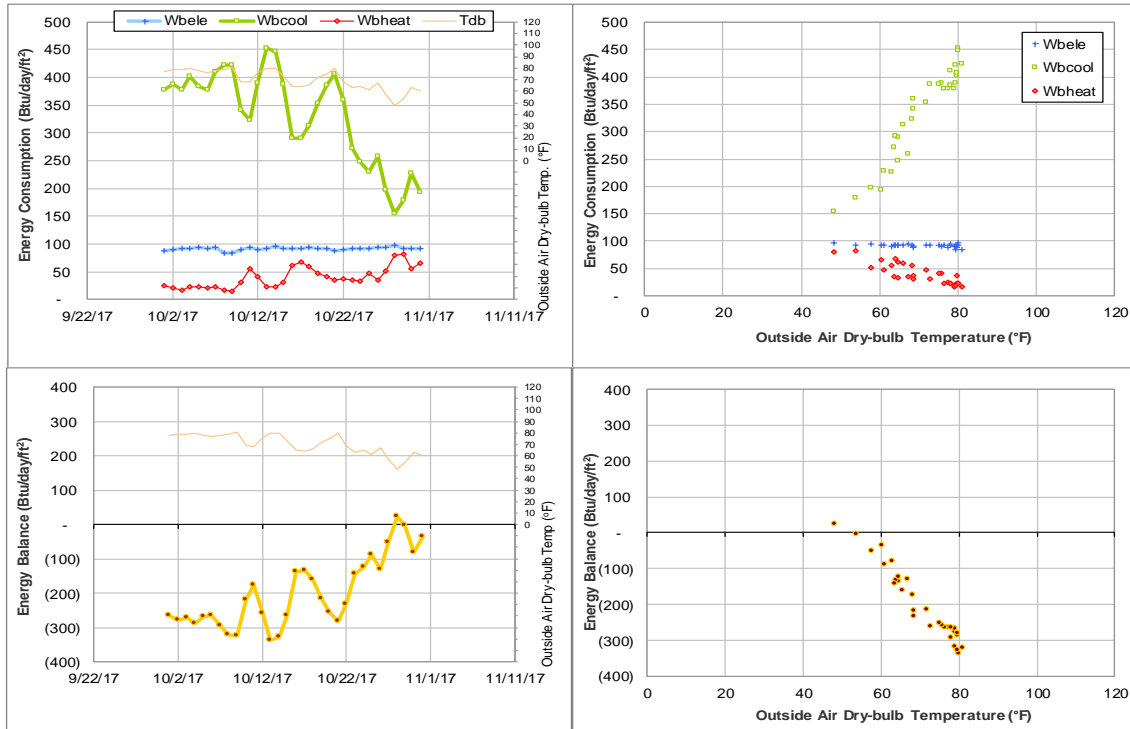


Figure IV-113 All Faiths Chapel TAMU BLDG # 512 Energy Balance Plot during October 2017

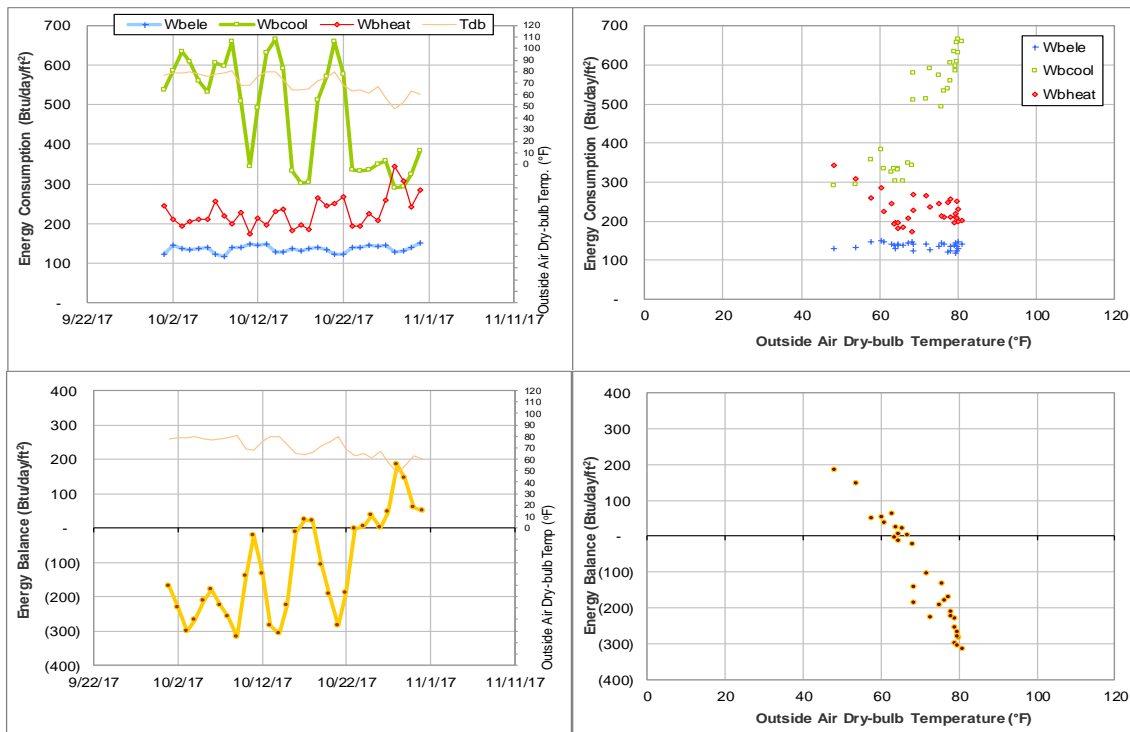


Figure IV-114 Doherty Building TAMU BLDG # 513 Energy Balance Plot during October 2017

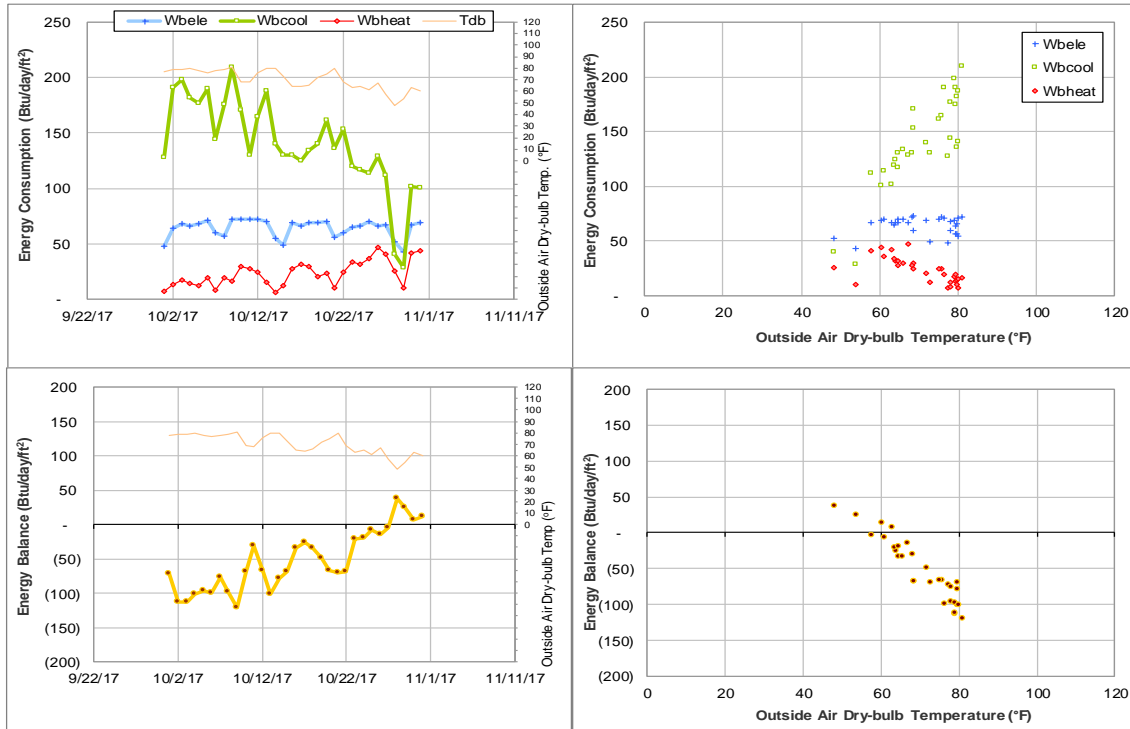


Figure IV-115 Munnerlyn Astronomy & Space Sciences Engineering TAMU BLDG # 514 Energy Balance Plot during October 2017

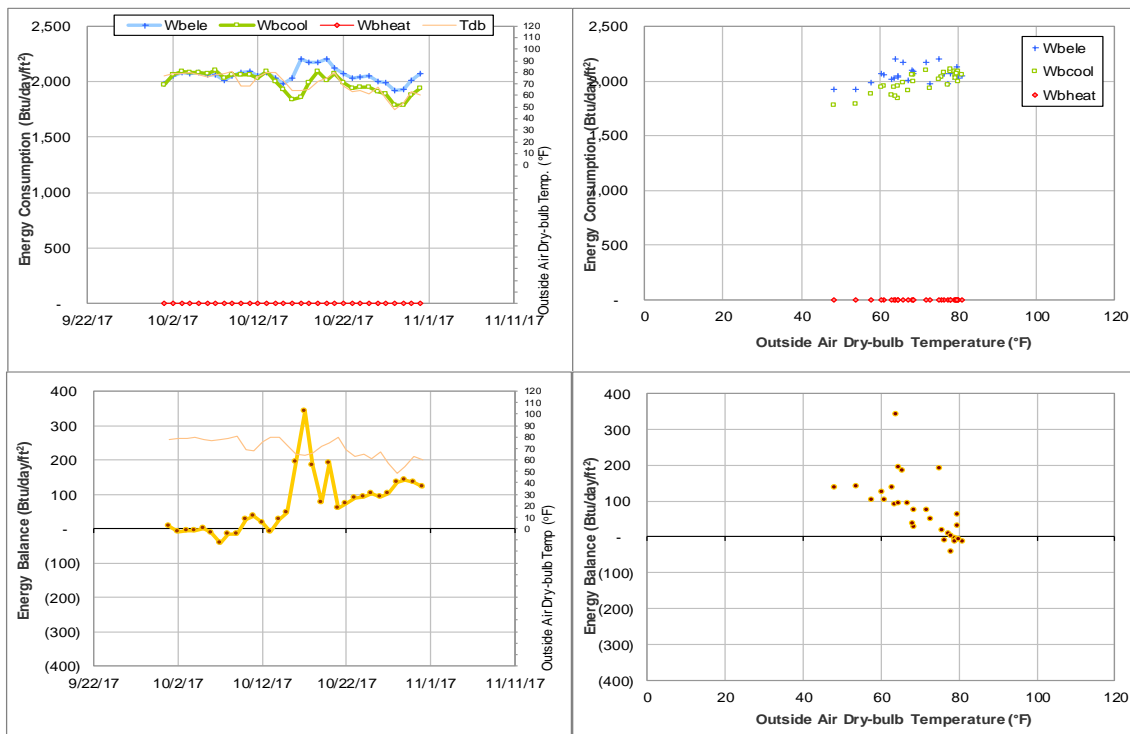


Figure IV-116 Computing Services Center TAMU BLDG # 516 Energy Balance Plot during October 2017

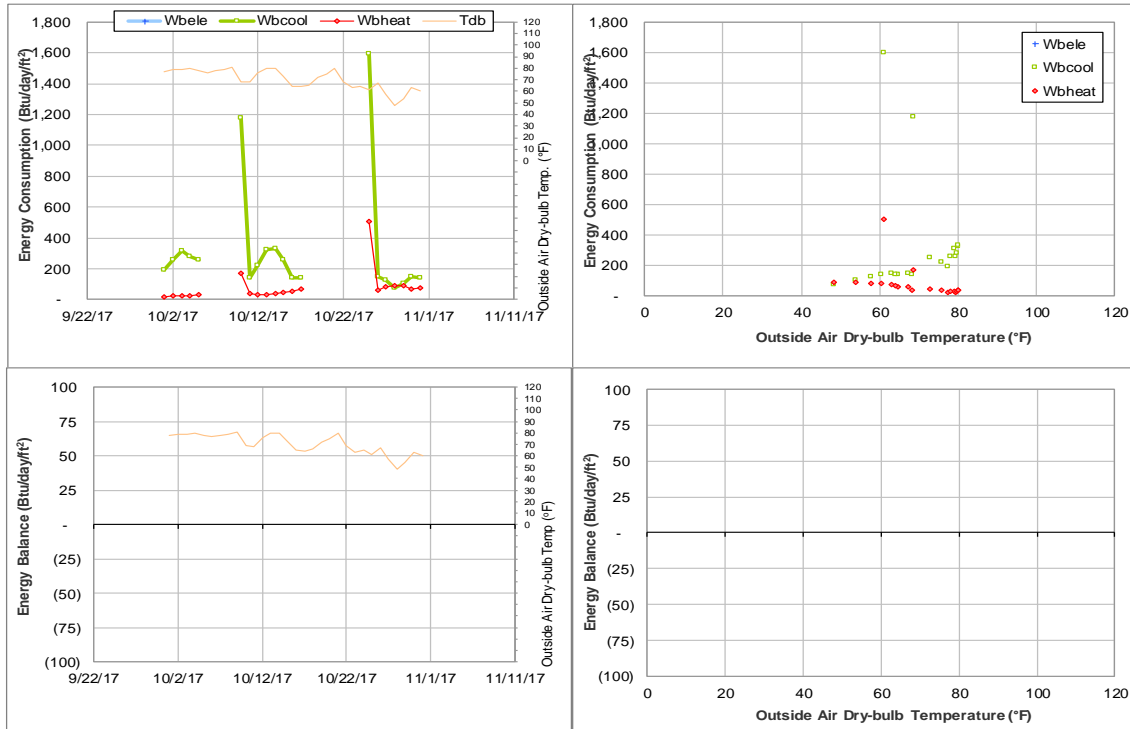


Figure IV-117 Zachry Engineering Education Complex TAMU BLDG # 518 Energy Balance Plot during October 2017

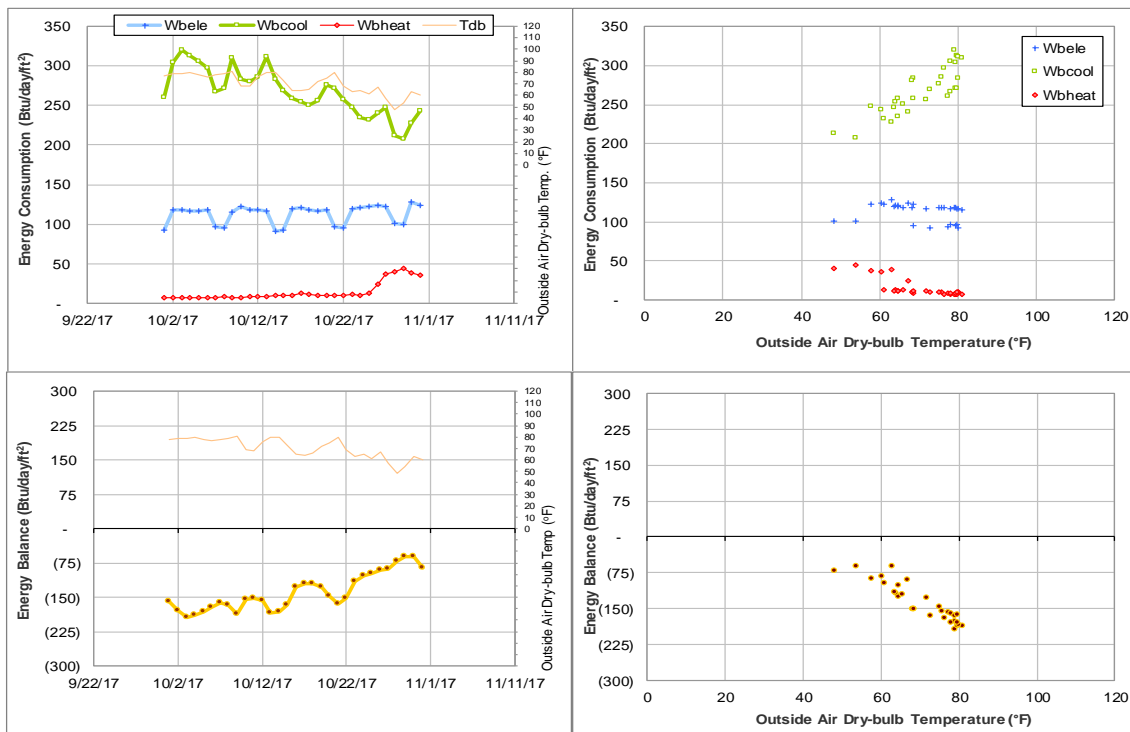


Figure IV-118 Beutel Health Center TAMU BLDG # 520 Energy Balance Plot during October 2017

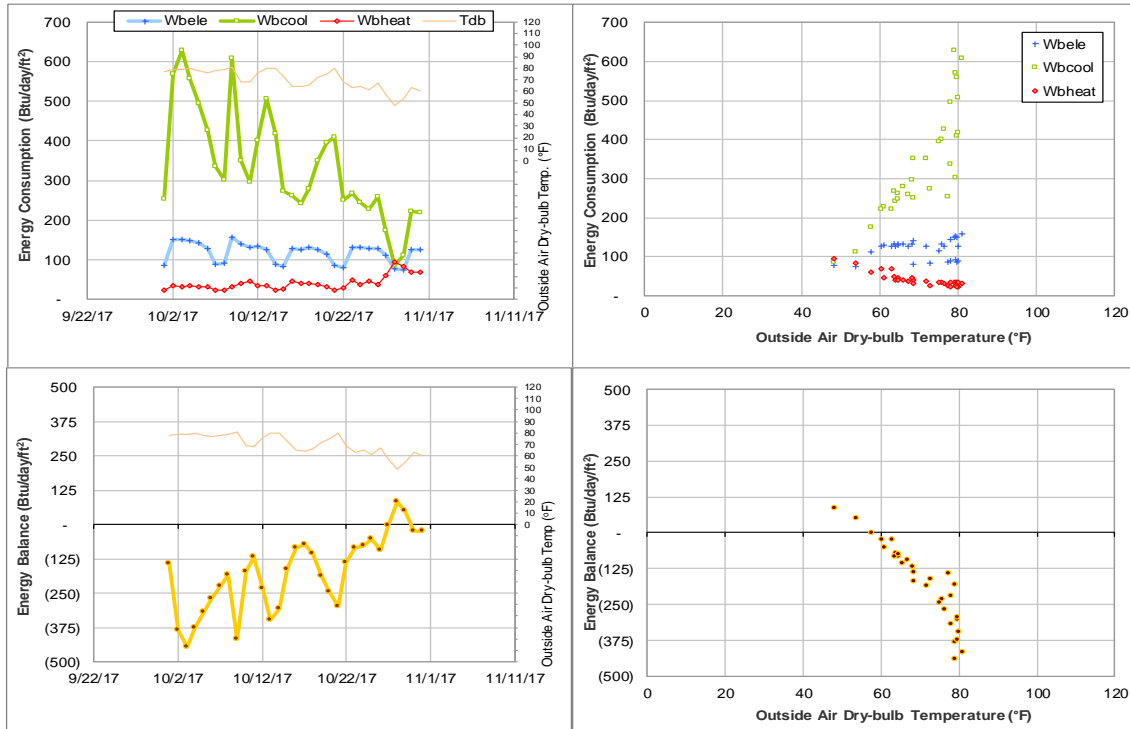


Figure IV-119 Heldenfels Hall TAMU BLDG # 521 Energy Balance Plot during October 2017

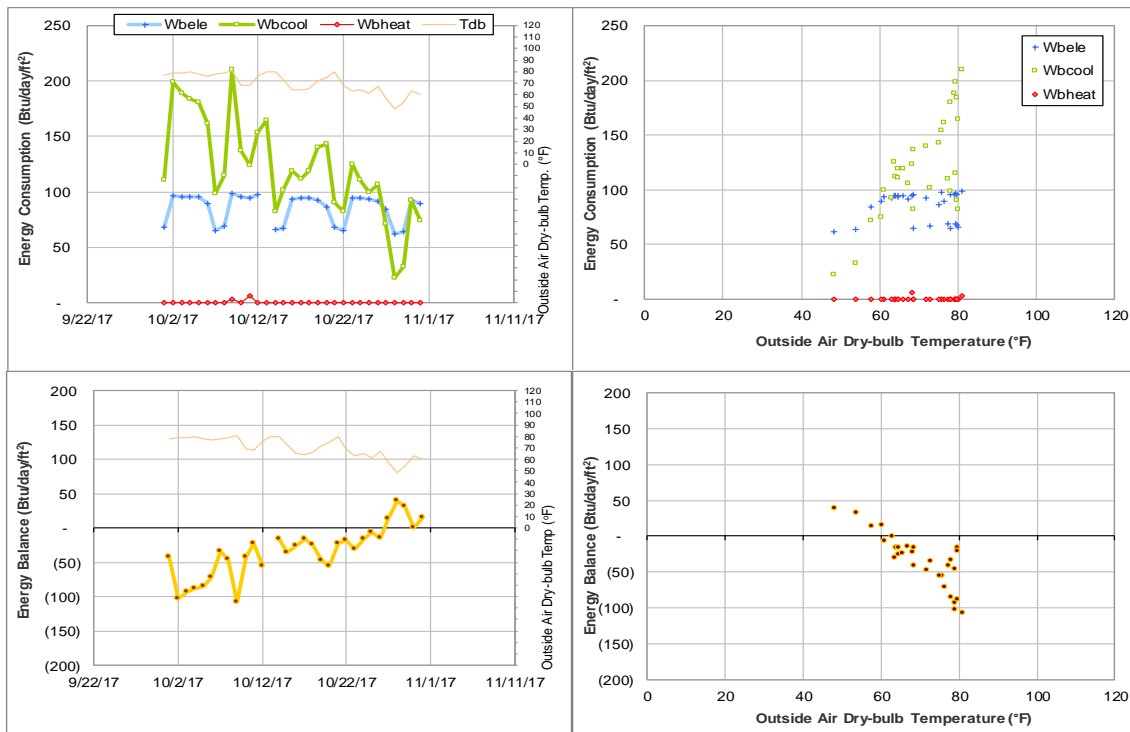


Figure IV-120 Blocker building TAMU BLDG # 524 Energy Balance Plot during October 2017

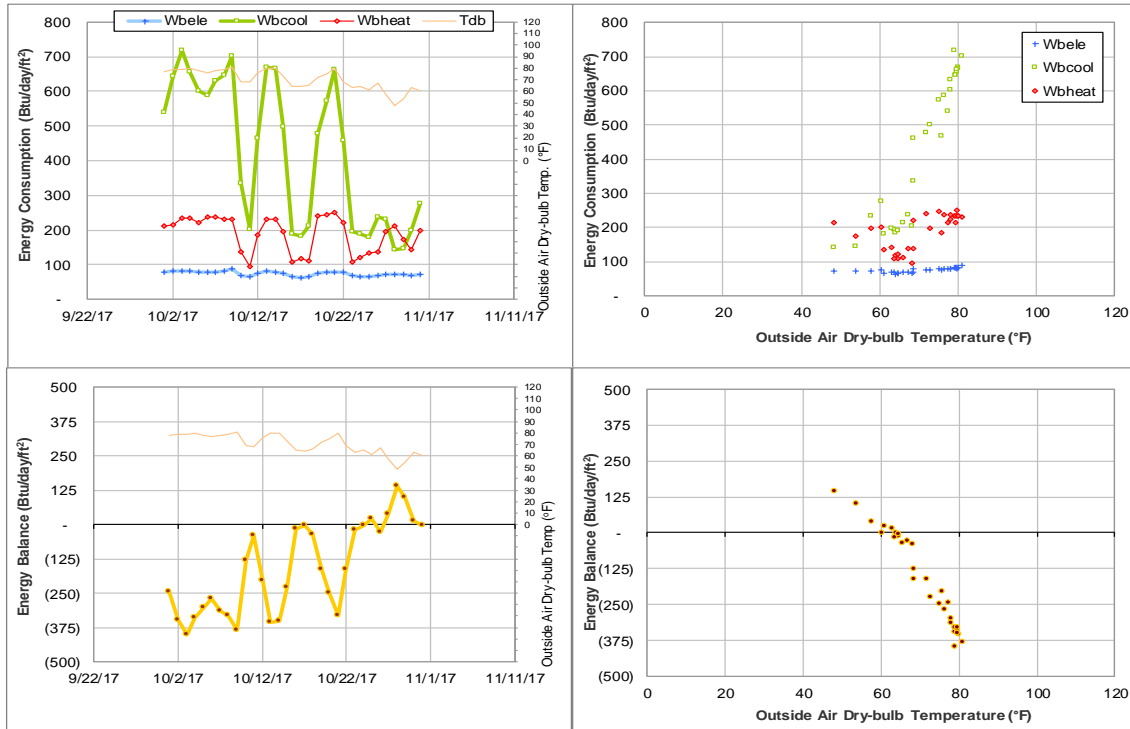


Figure IV-121 Clements Residence Hall TAMU BLDG # 548 Energy Balance Plot during October 2017

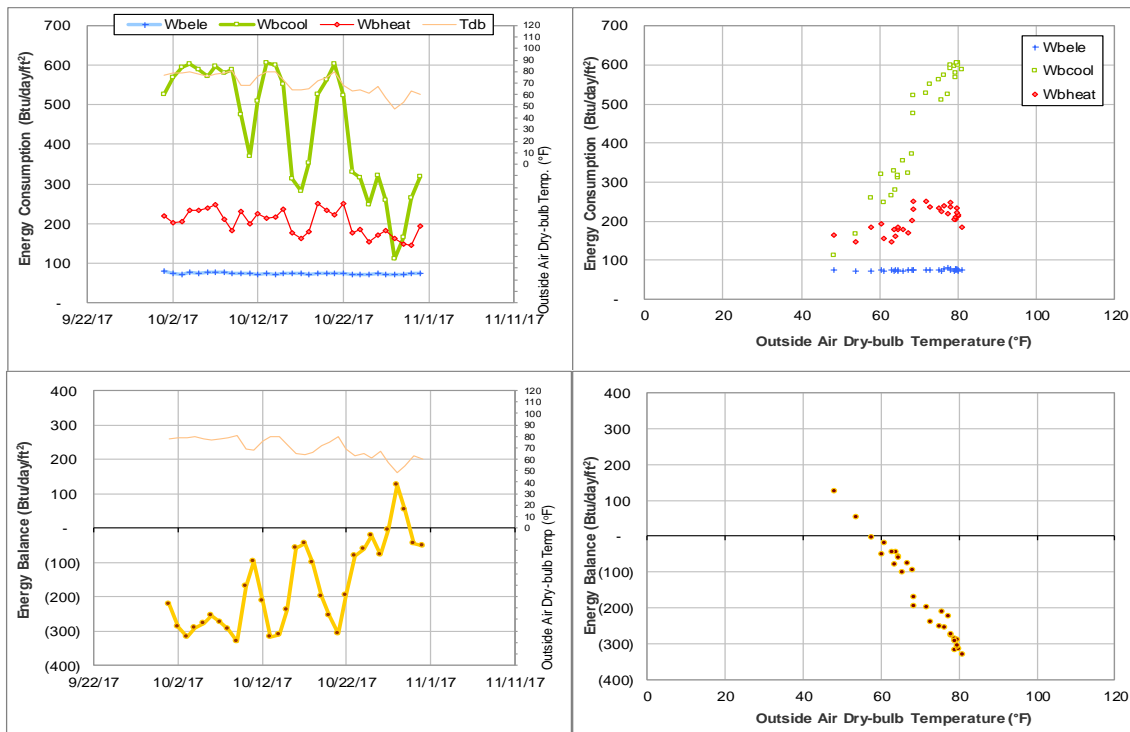


Figure IV-122 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during October 2017



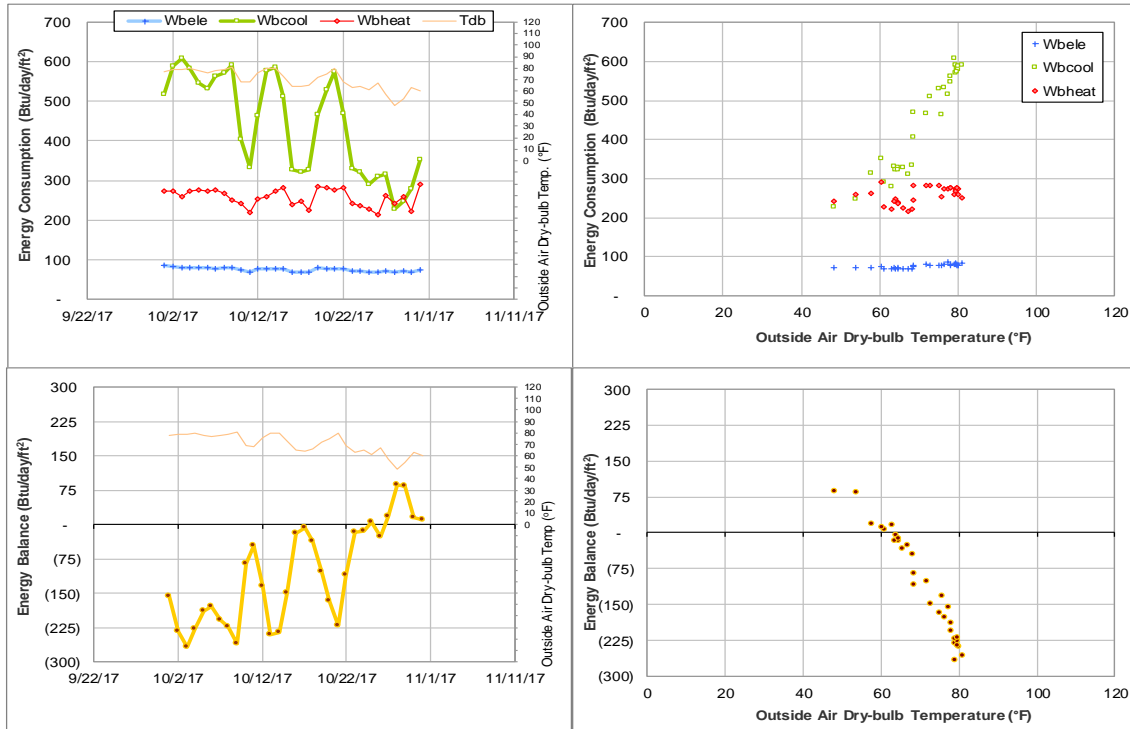


Figure IV-123 McFadden Residence Hall TAMU BLDG # 550 Energy Balance Plot during October 2017

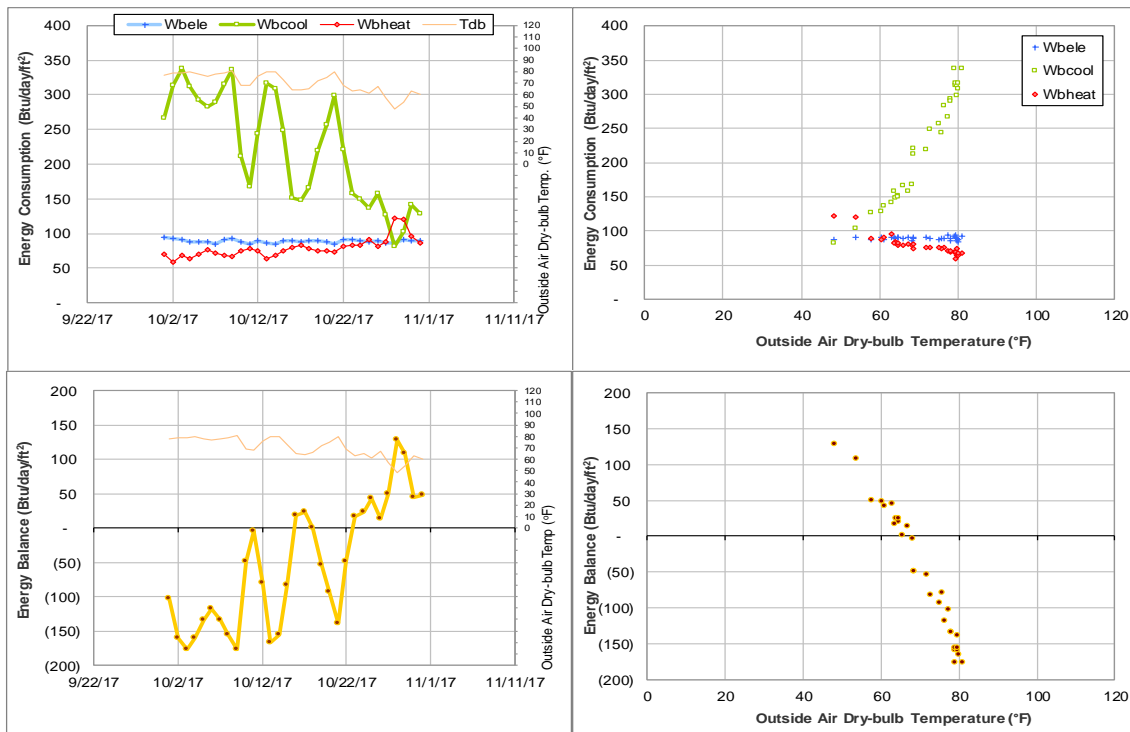


Figure IV-124 Neeley Residence Hall TAMU BLDG # 652 Energy Balance Plot during October 2017

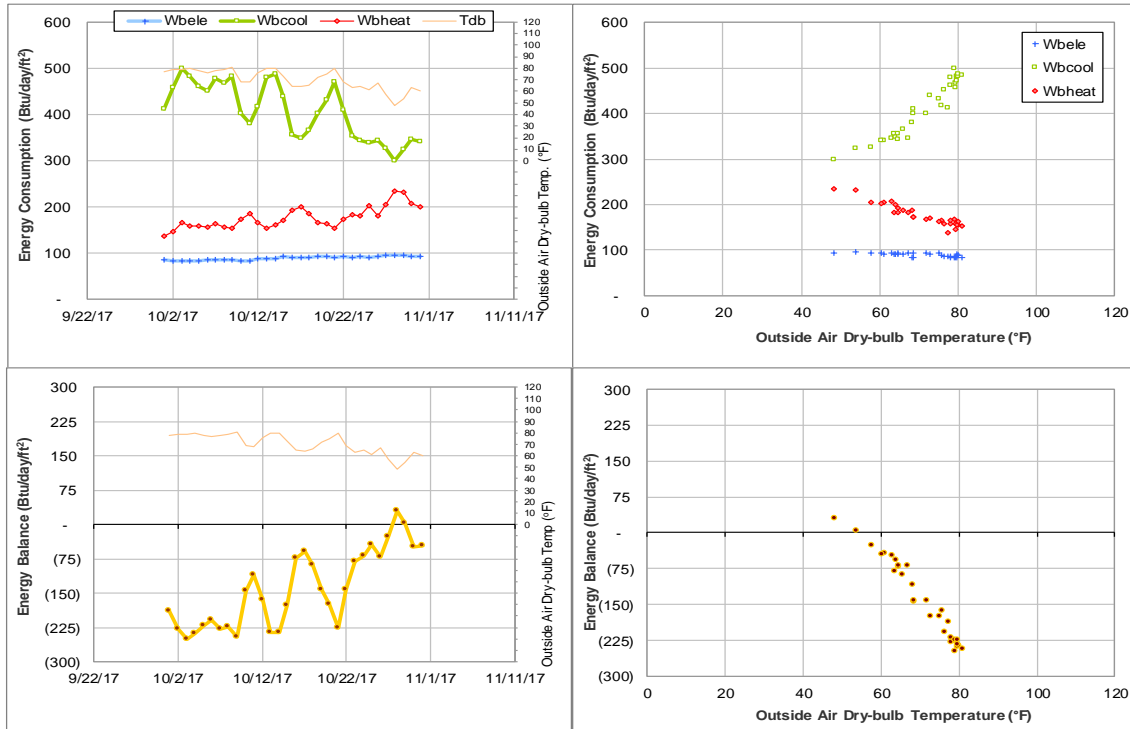


Figure IV-125 Hobby Residence Hall TAMU BLDG # 653 Energy Balance Plot during October 2017

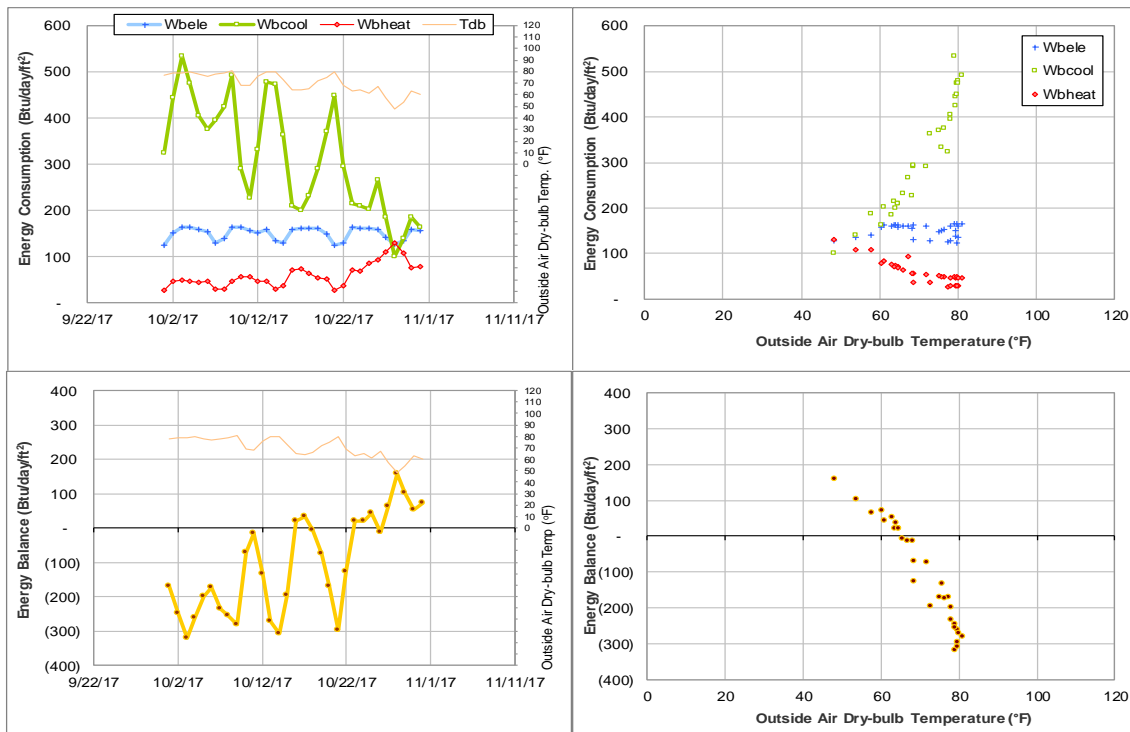


Figure IV-126 Wisenbaker Engineering Research Center TAMU BLDG # 682 Energy Balance Plot during October 2017

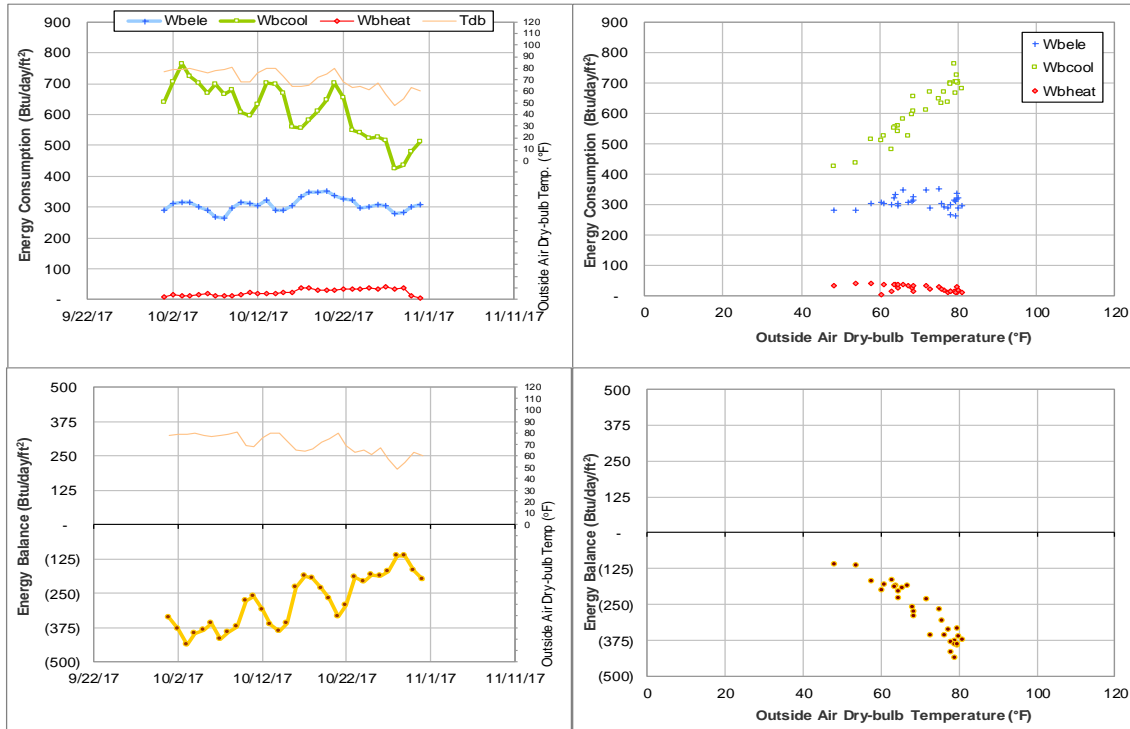


Figure IV-127 McNew Laboratory TAMU BLDG # 740 Energy Balance Plot during October 2017

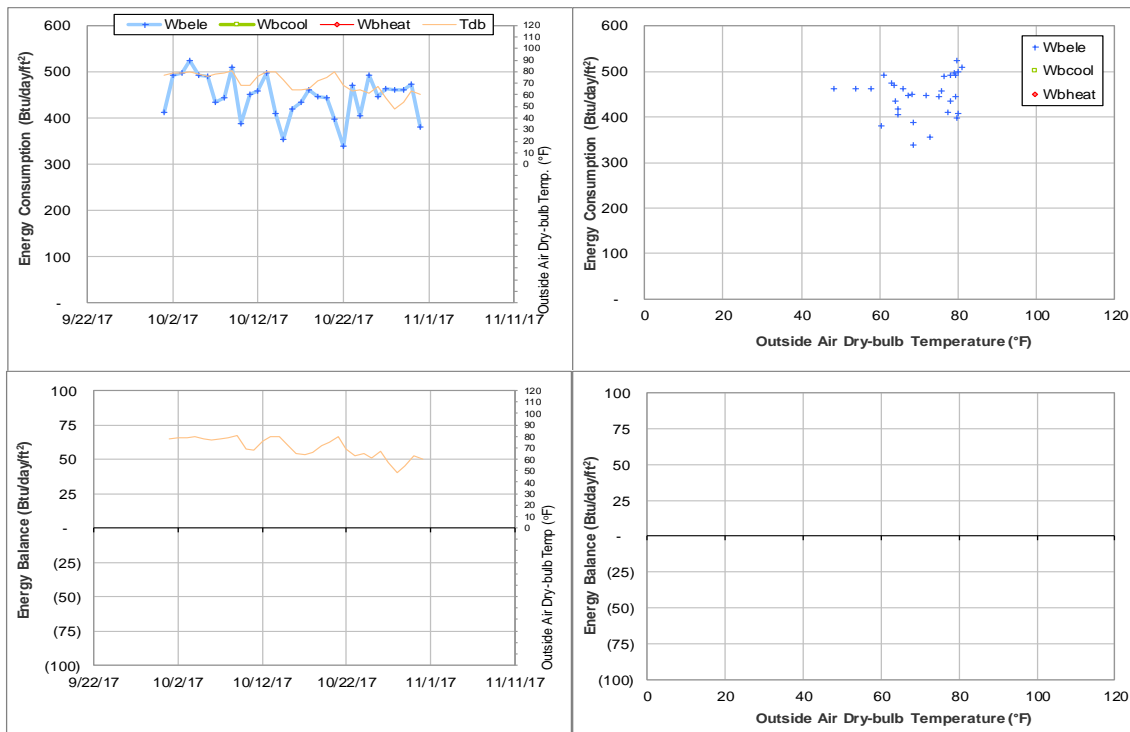


Figure IV-128 Soil Testing Labs TAMU BLDG # 806 Energy Balance Plot during October 2017

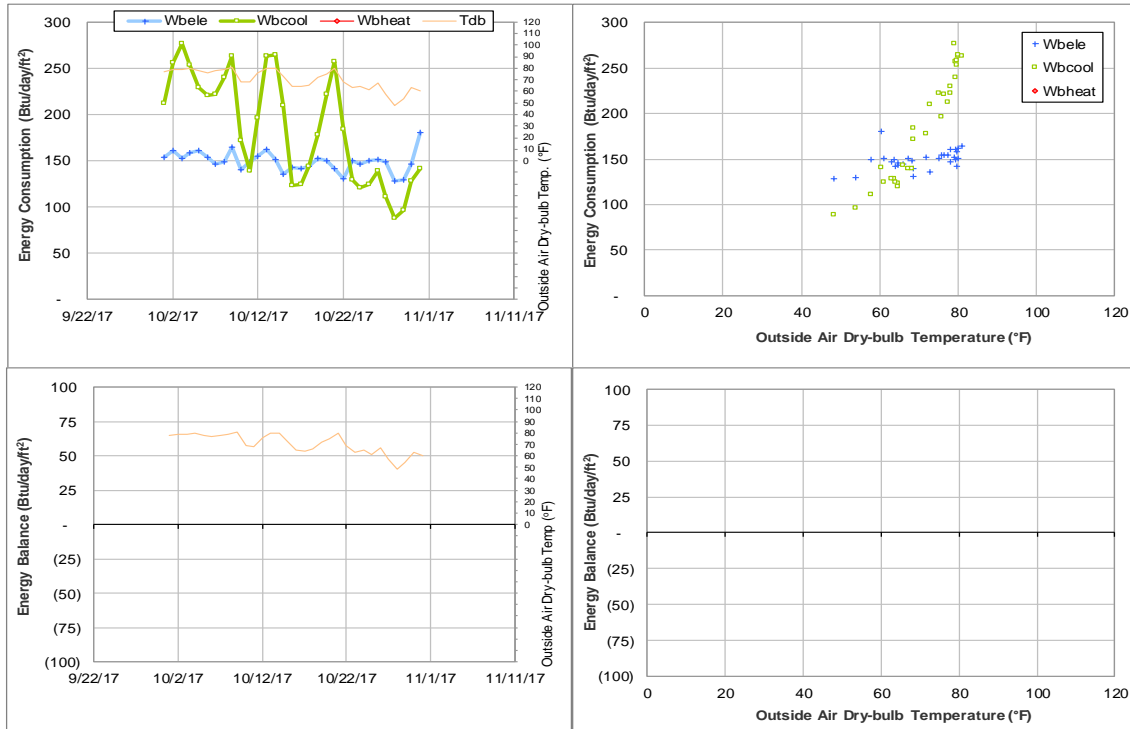


Figure IV-129 Entomology Research Lab TAMU BLDG # 815 Energy Balance Plot during October 2017

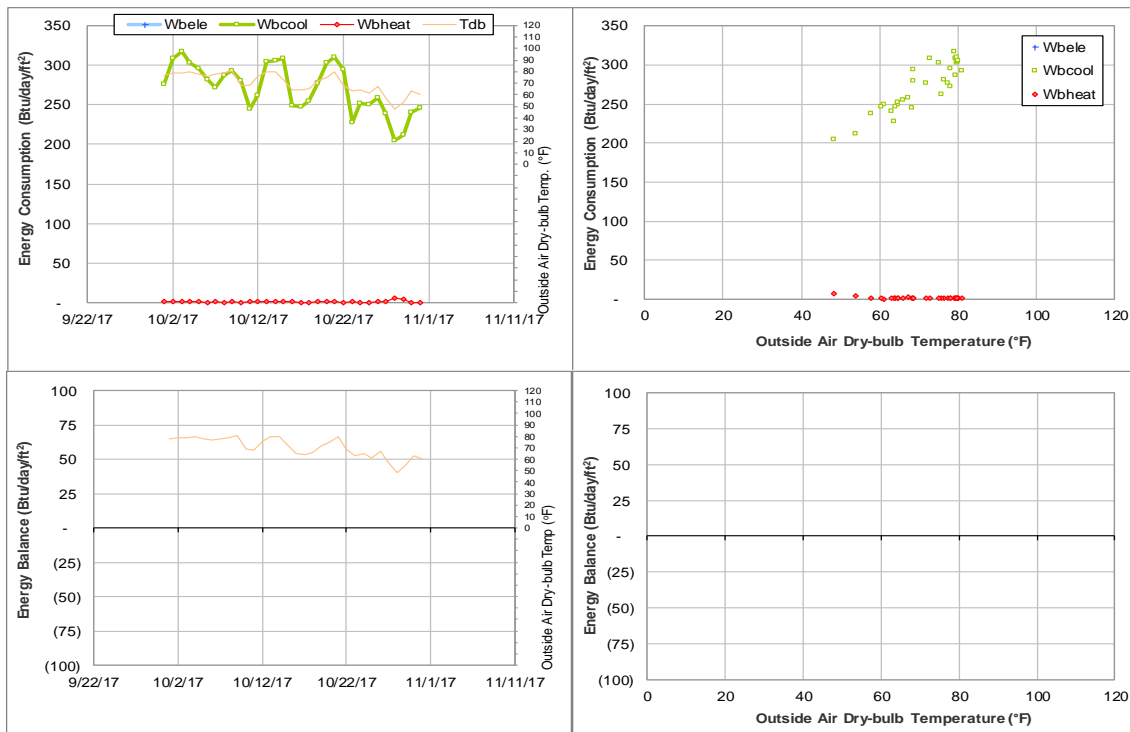


Figure IV-130 TVMC-Small Animal Building TAMU BLDG # 880 Energy Balance Plot during October 2017

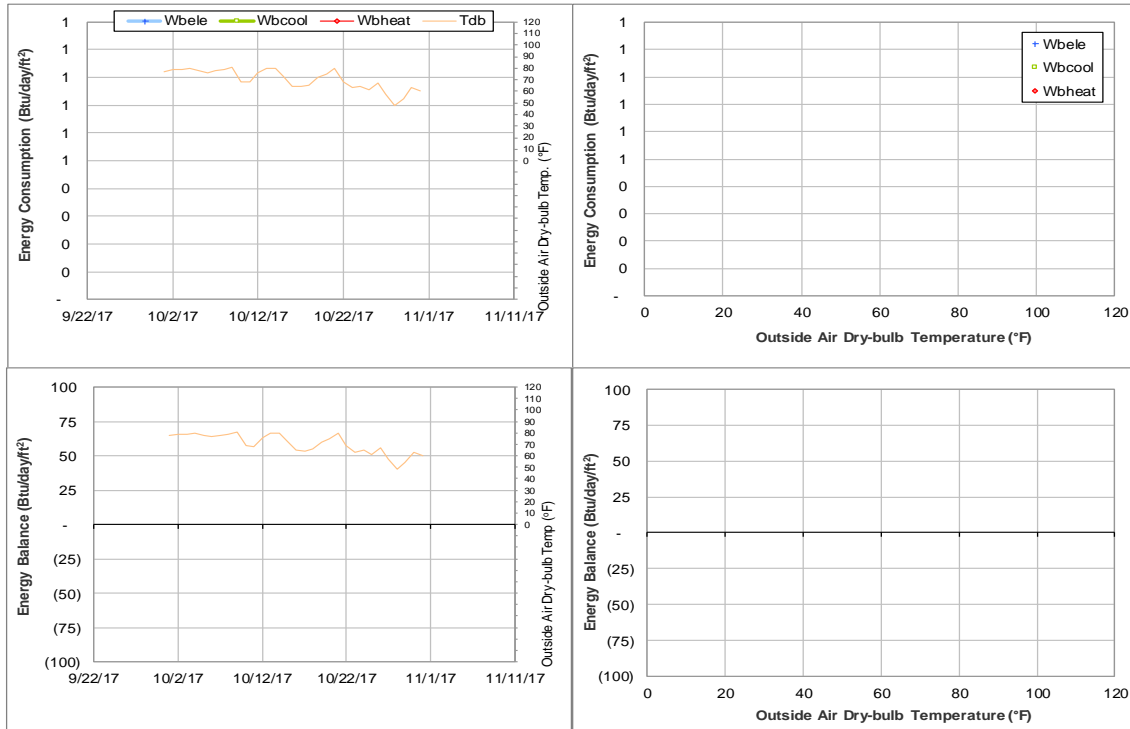


Figure IV-131 Dollar Data Center TAMU BLDG # 971 Energy Balance Plot during October 2017

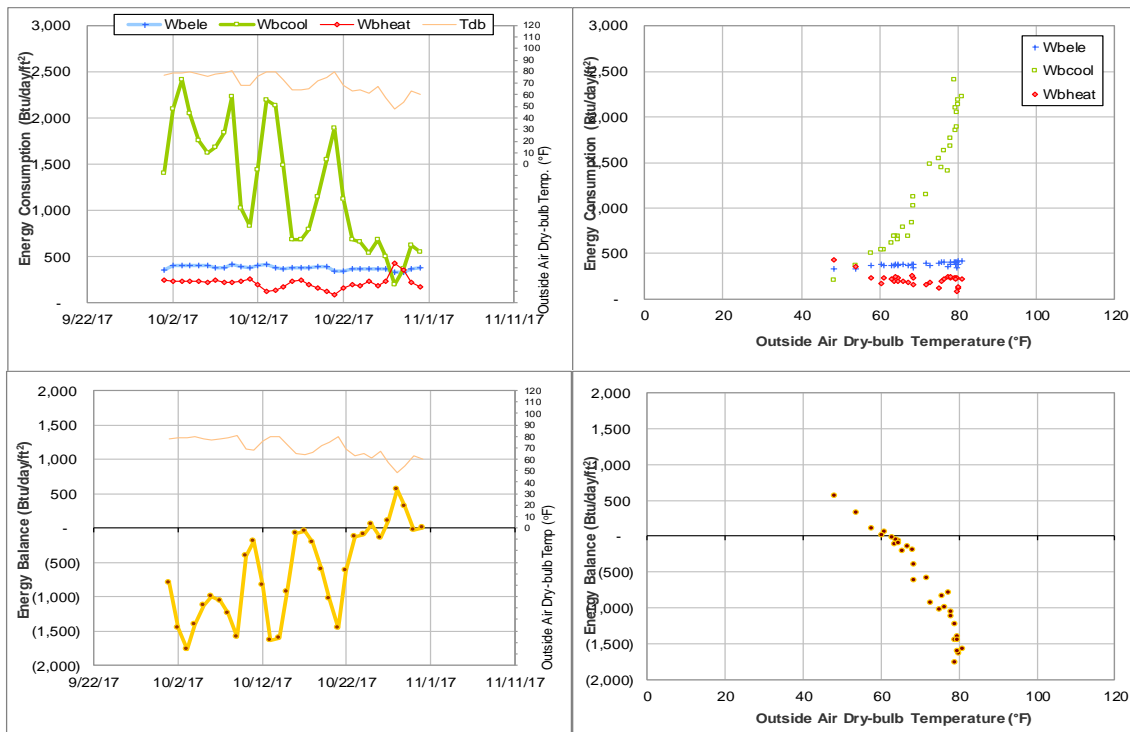


Figure IV-132 Laboratory Animal Care Building TAMU BLDG # 972 Energy Balance Plot during October 2017

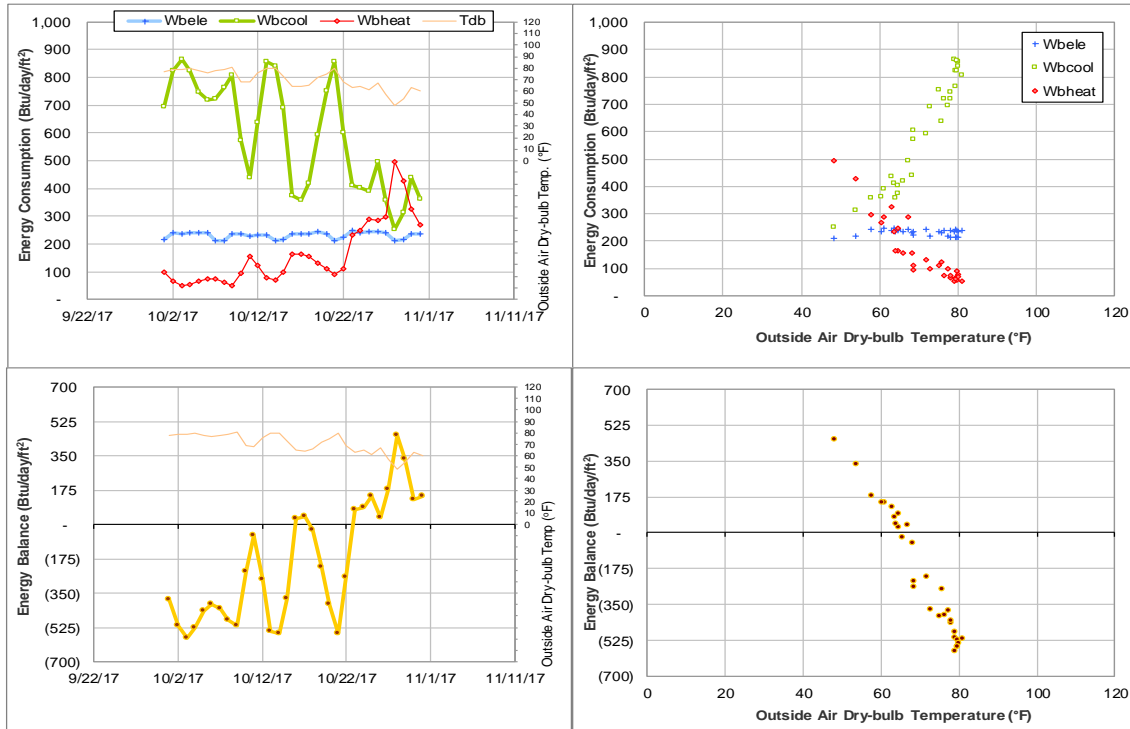


Figure IV-133 Vivarium III TAMU BLDG # 1020 Energy Balance Plot during October 2017

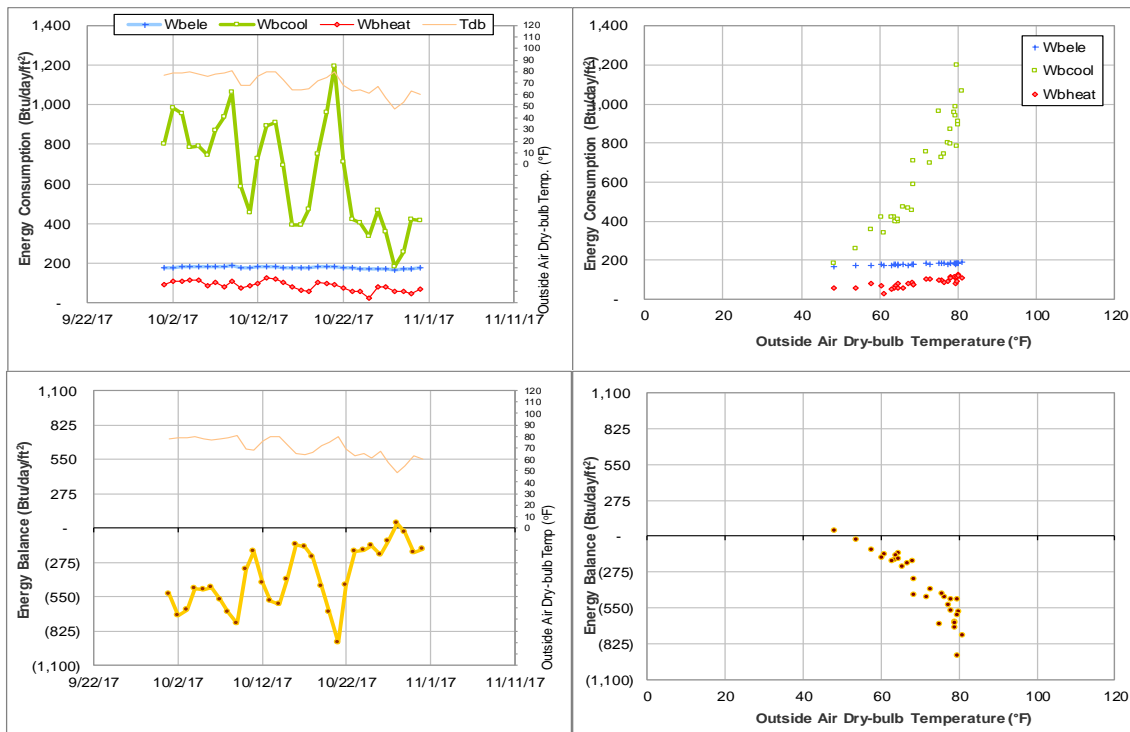


Figure IV-134 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during October 2017

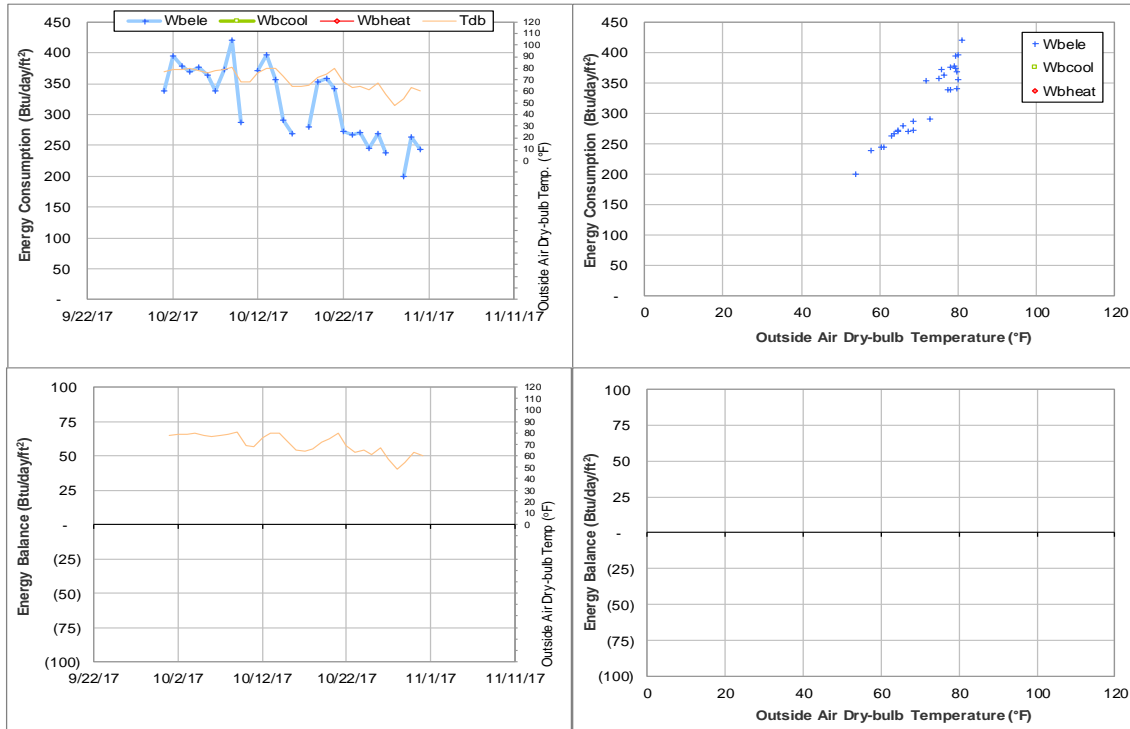


Figure IV-135 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during October 2017

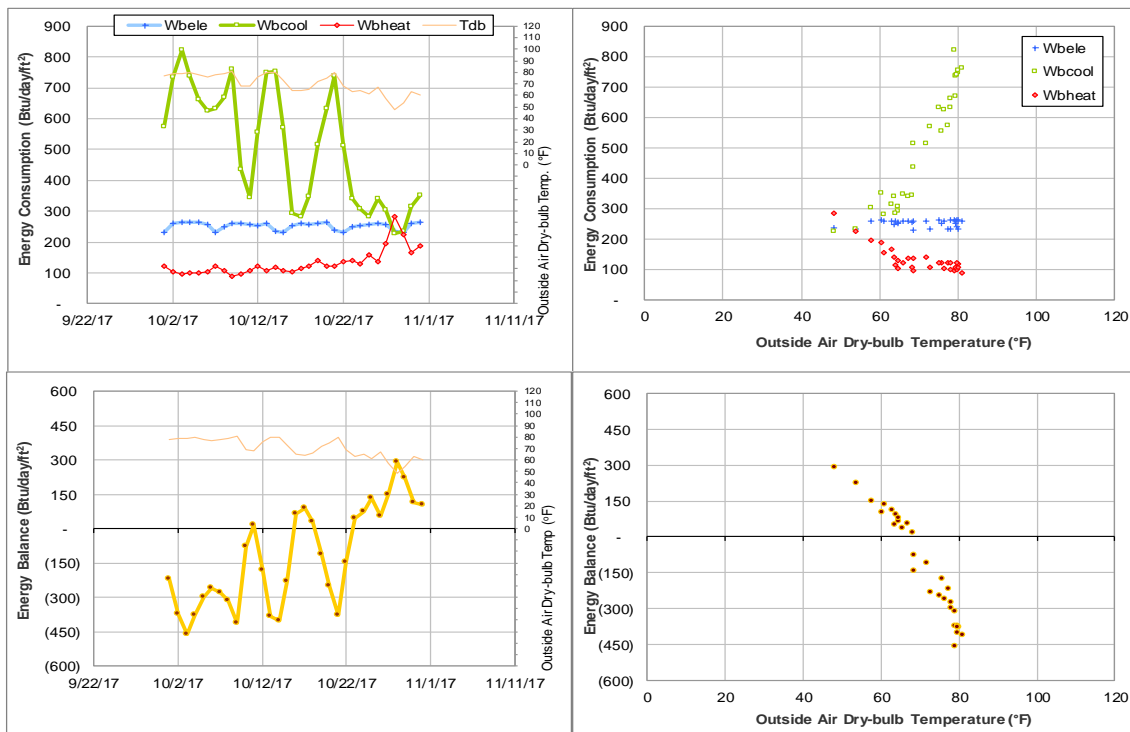


Figure IV-136 Veterinary Small Animal Hospital TAMU BLDG # 1085 Energy Balance Plot during October 2017

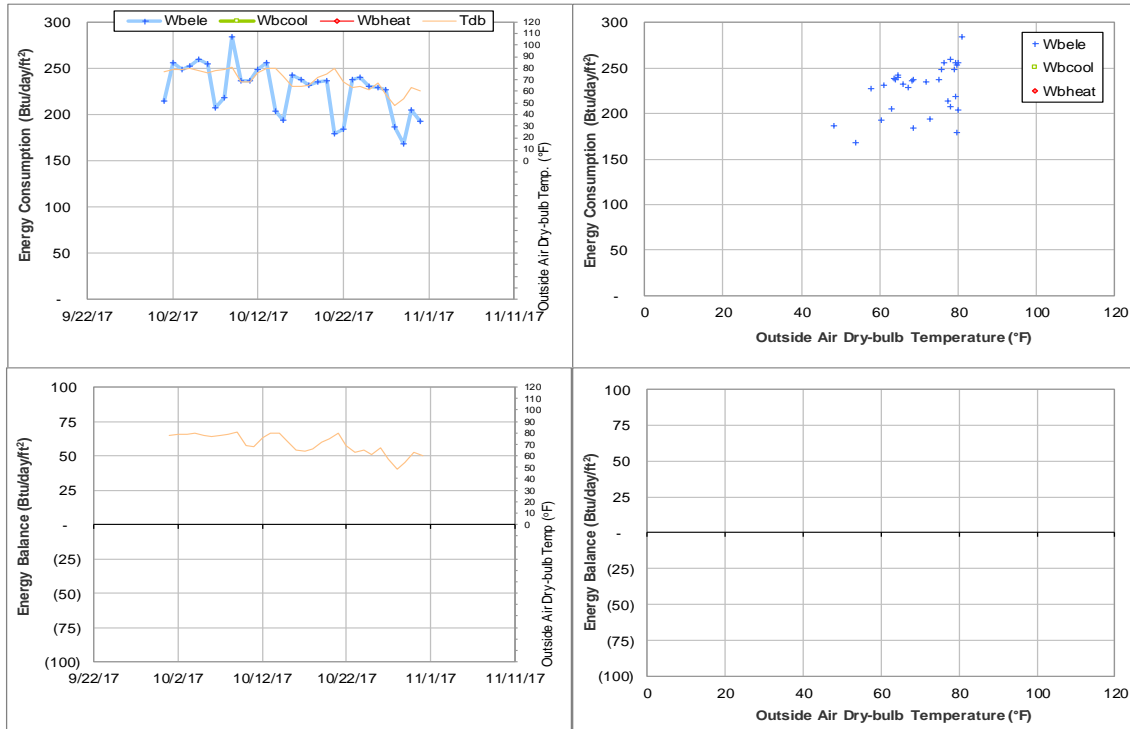


Figure IV-137 Utilities Energy Office Annex TAMU BLDG # 1089 Energy Balance Plot during October 2017

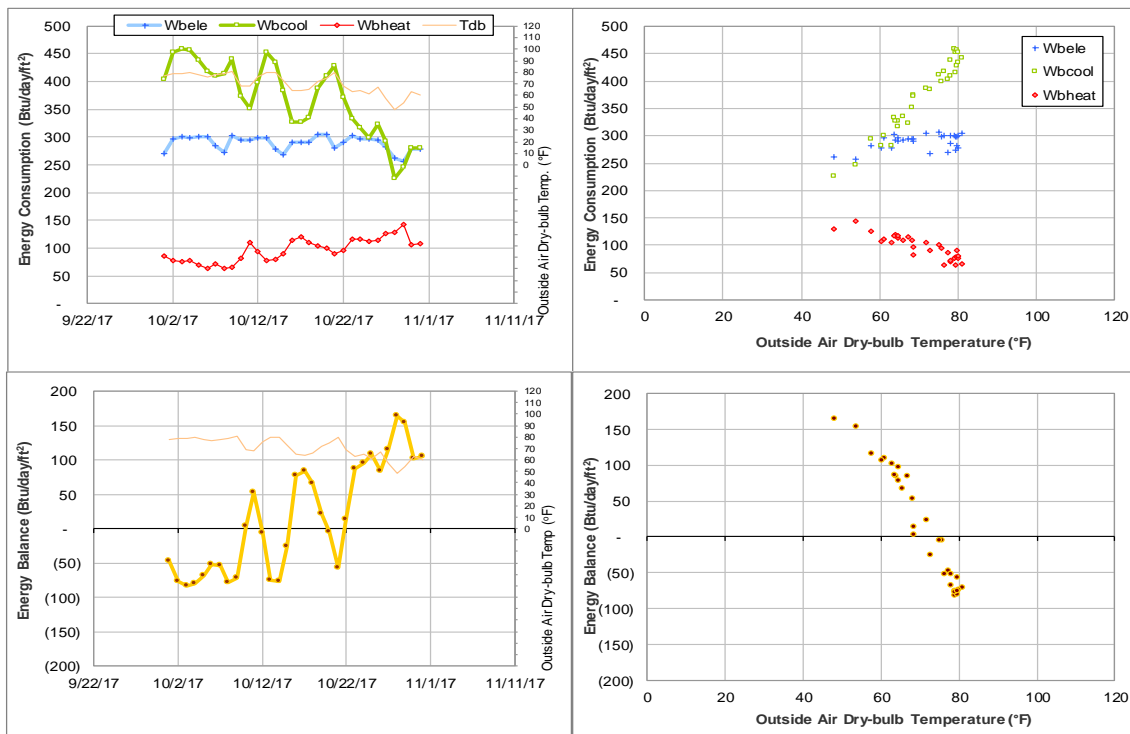


Figure IV-138 Biological Control Facility TAMU BLDG # 1146 Energy Balance Plot during October 2017



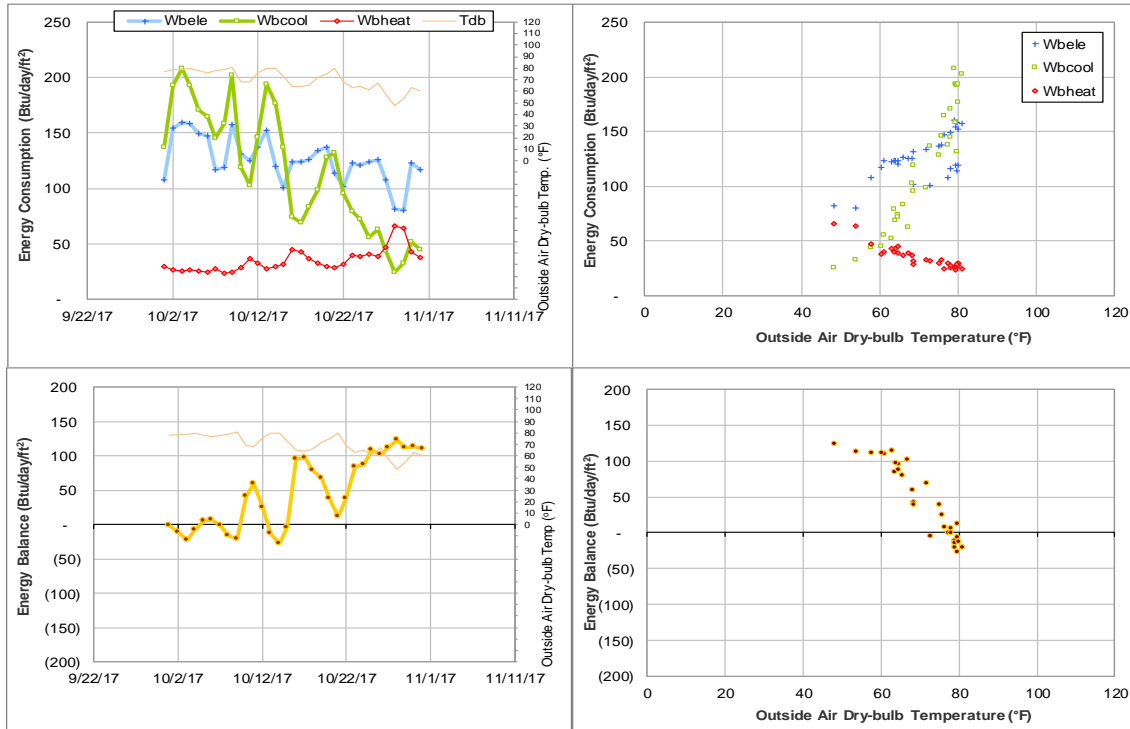


Figure IV-139 Physical Plant Administration & Shops TAMU BLDG # 1156 Energy Balance Plot during October 2017

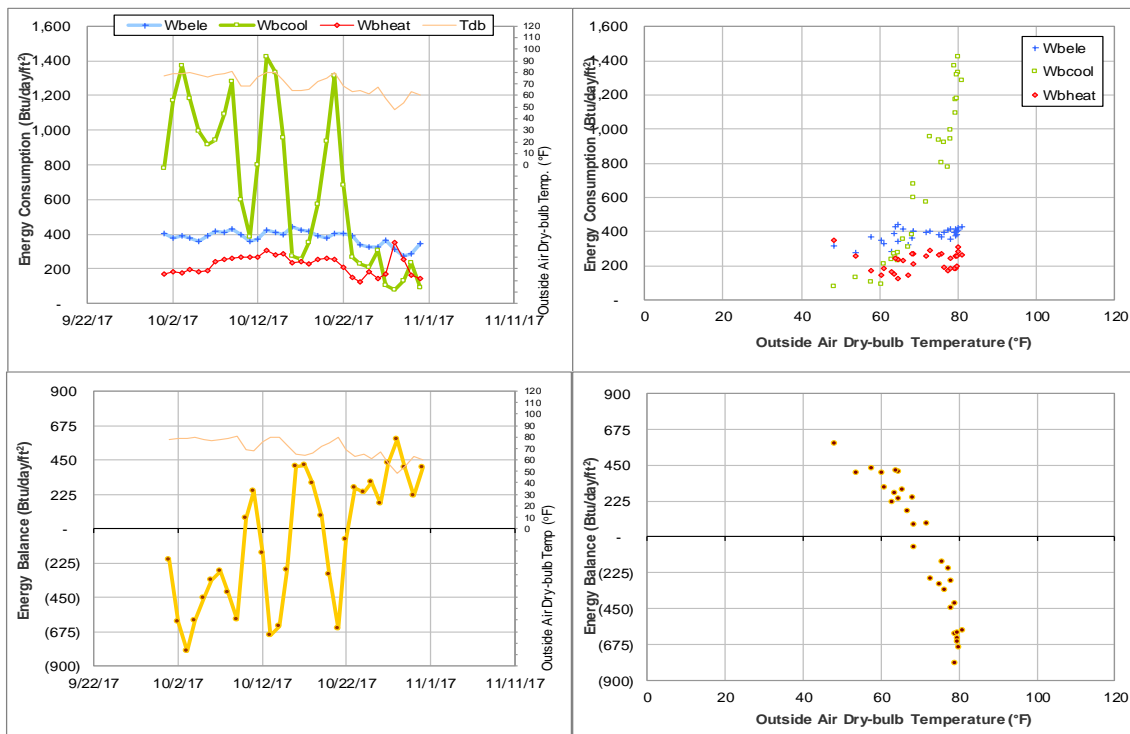


Figure IV-140 Veterinary Anatomic Pathology TAMU BLDG # 1184 Energy Balance Plot during October 2017

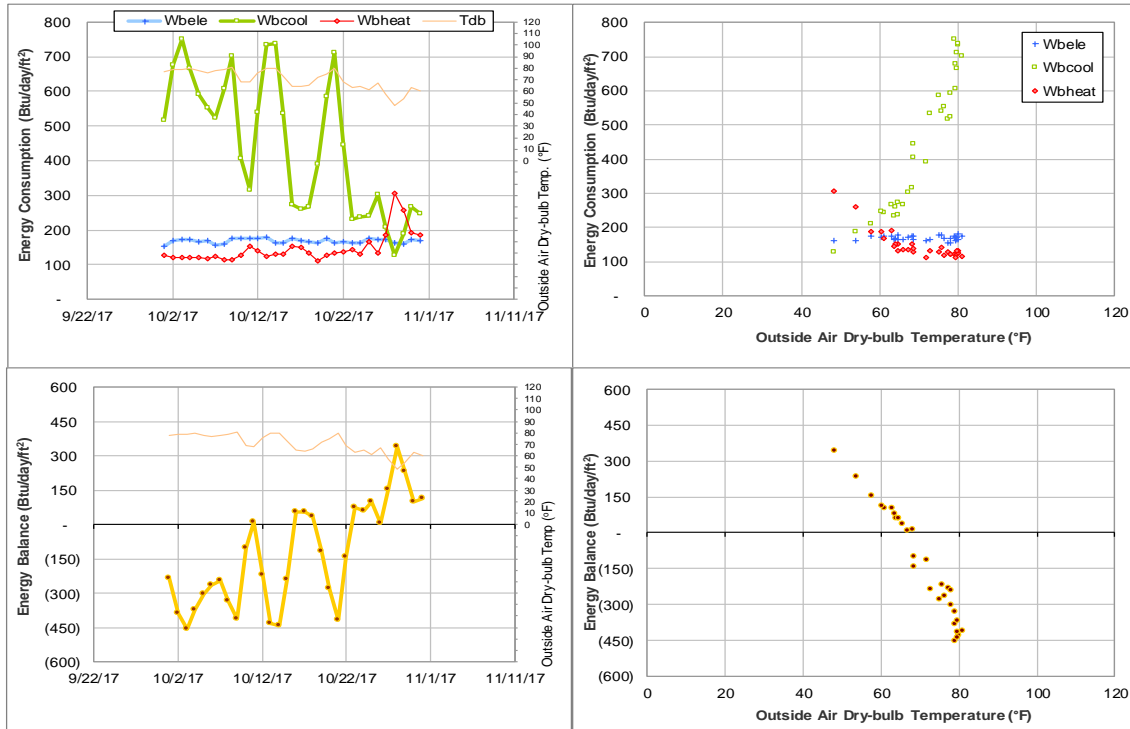


Figure IV-141 Veterinary Large Animal Hospital TAMU BLDG # 1194 Energy Balance Plot during October 2017

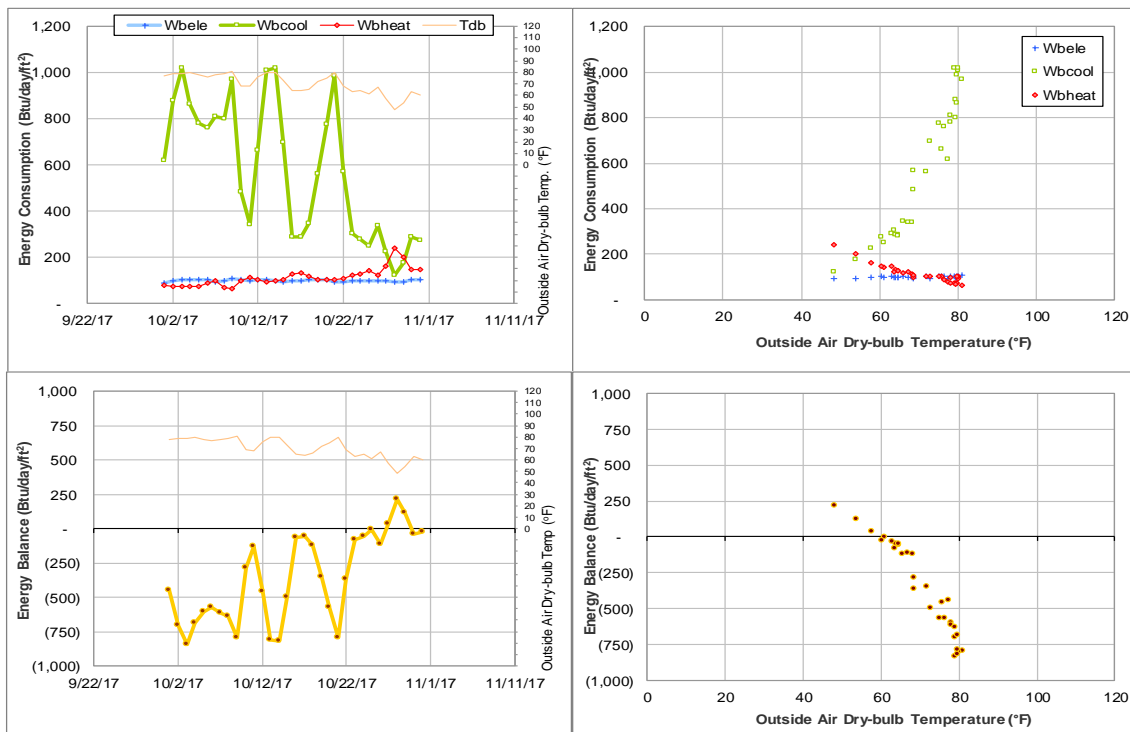


Figure IV-142 Veterinary Research Building TAMU BLDG # 1197 Energy Balance Plot during October 2017

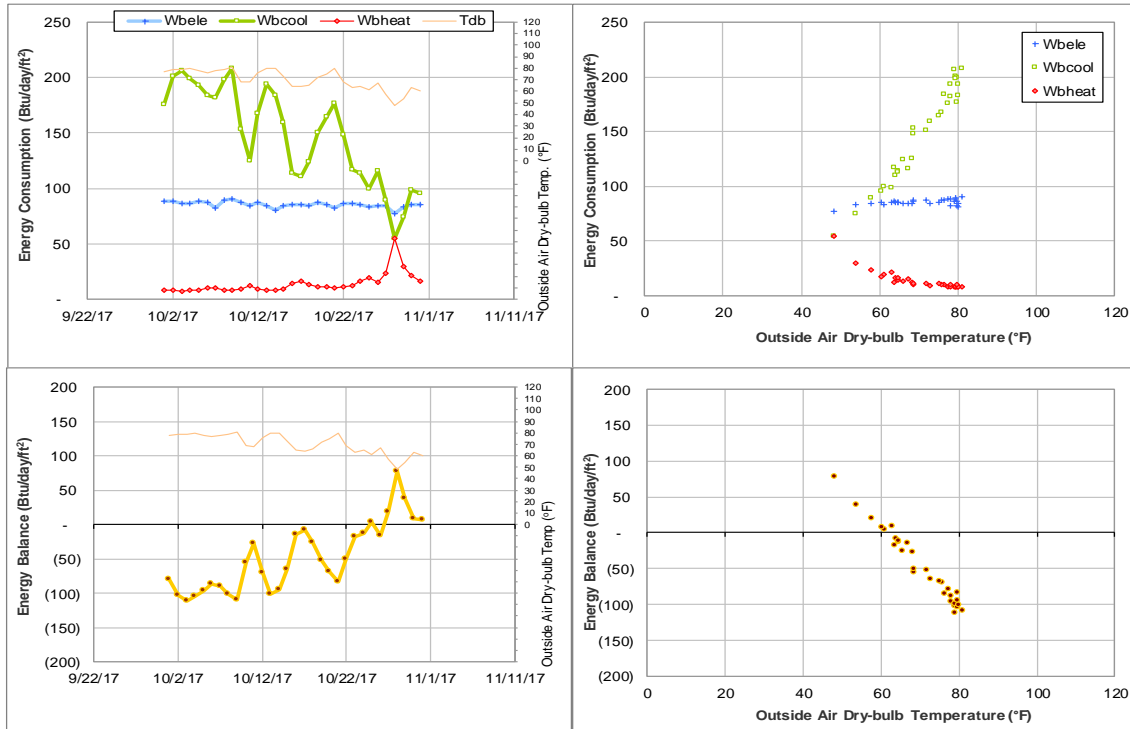


Figure IV-143 Hullabaloo Residence Hall TAMU BLDG # 1416 Energy Balance Plot during October 2017

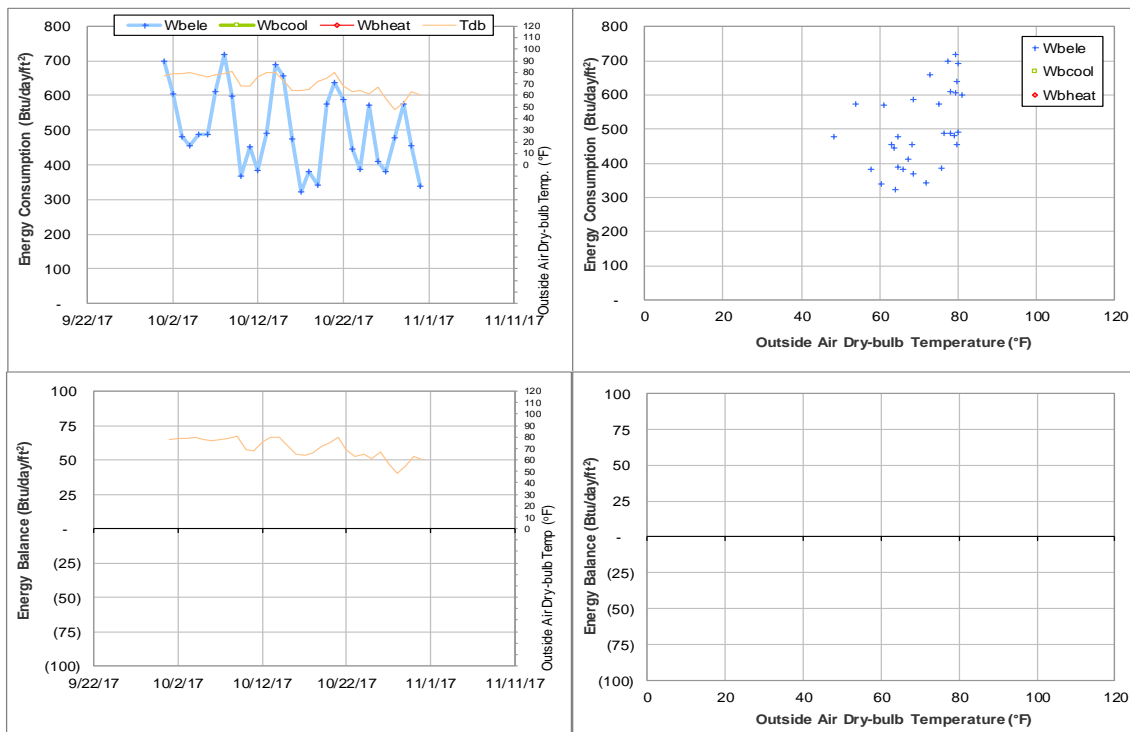


Figure IV-144 University Apartments - Laundry at the Gardens TAMU BLDG # 1450 Energy Balance Plot during October 2017

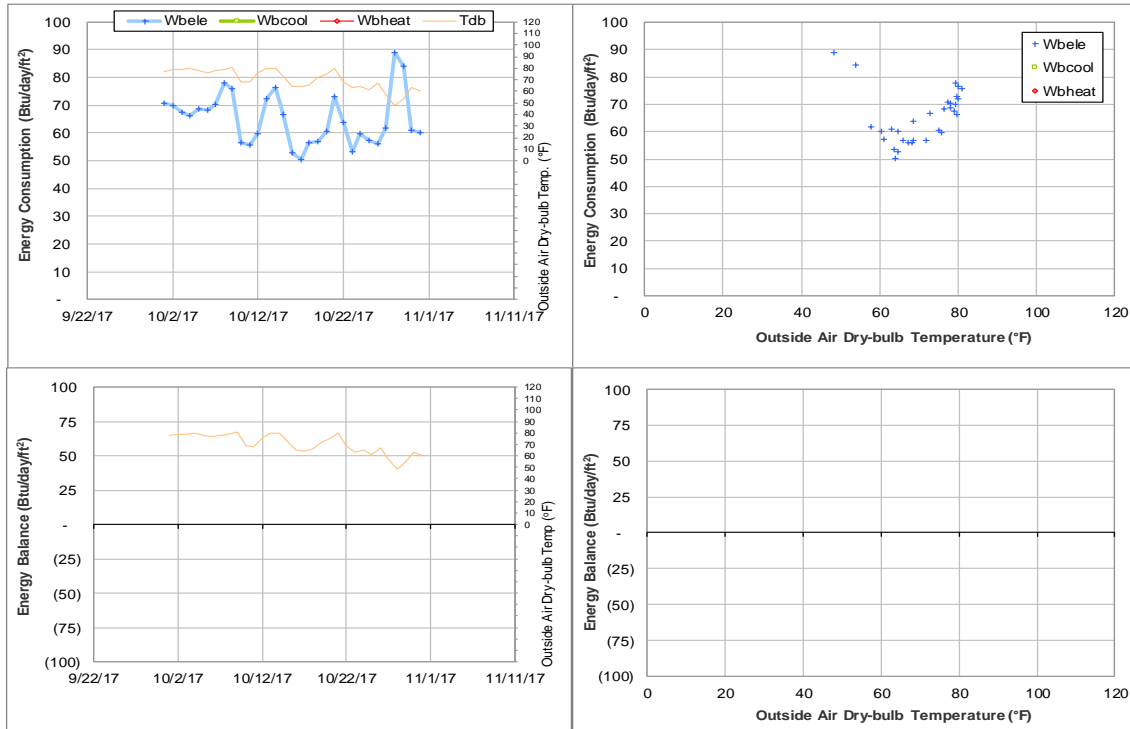


Figure IV-145 University Apartments - The Gardens J TAMU BLDG # 1451 Energy Balance Plot during October 2017

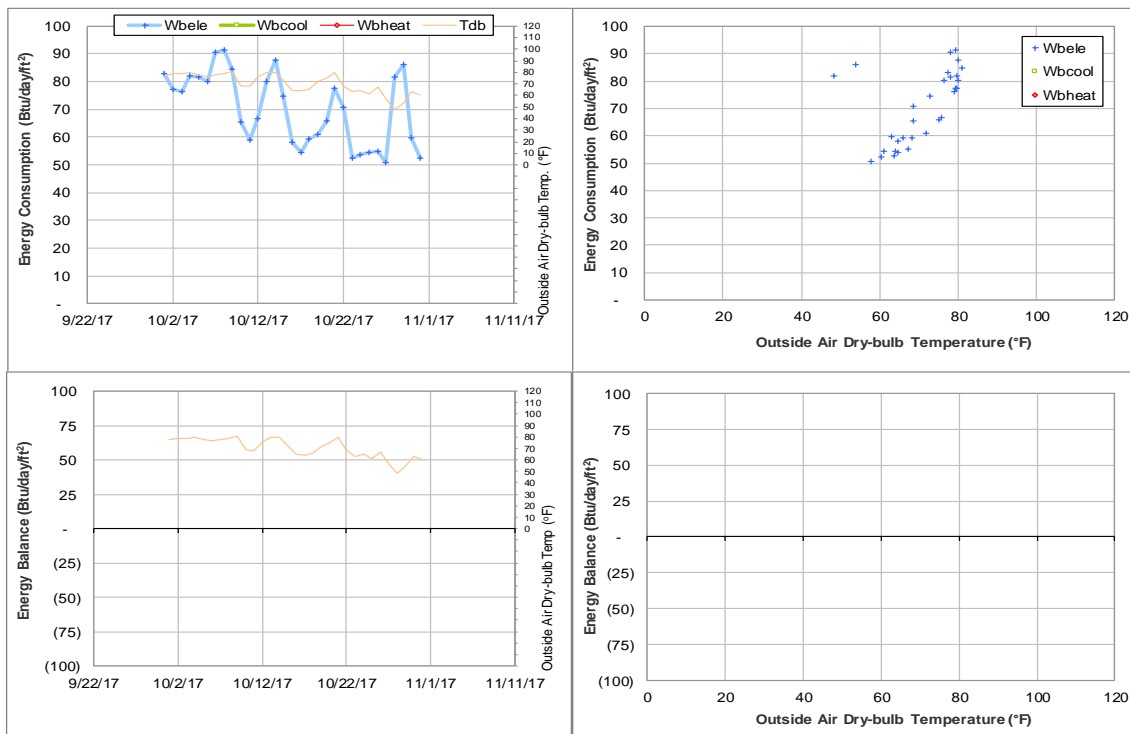


Figure IV-146 University Apartments - The Gardens K TAMU BLDG # 1452 Energy Balance Plot during October 2017

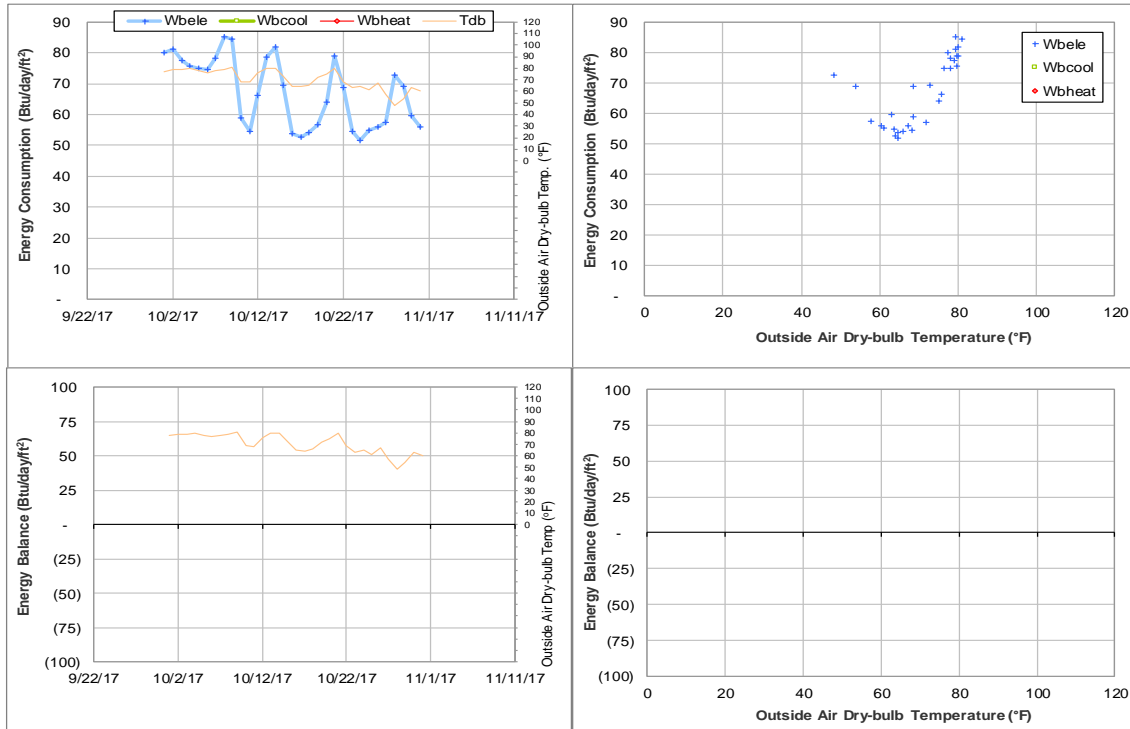


Figure IV-147 University Apartments - The Gardens L TAMU BLDG # 1453 Energy Balance Plot during October 2017

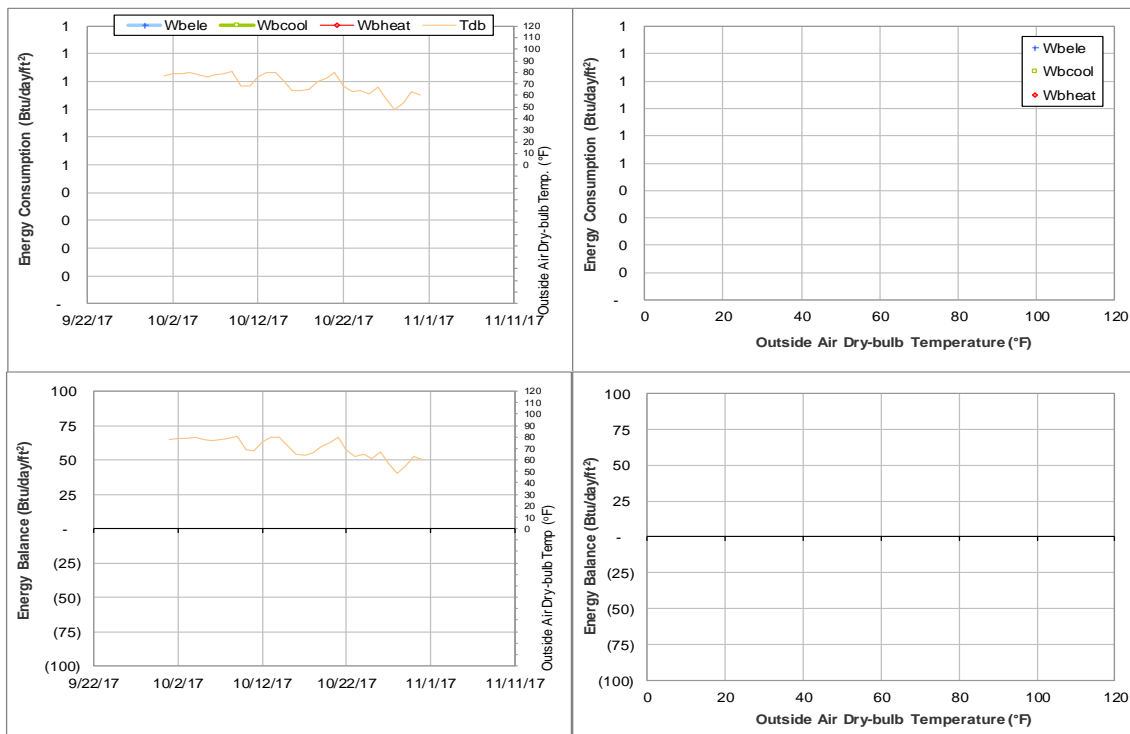


Figure IV-148 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during October 2017

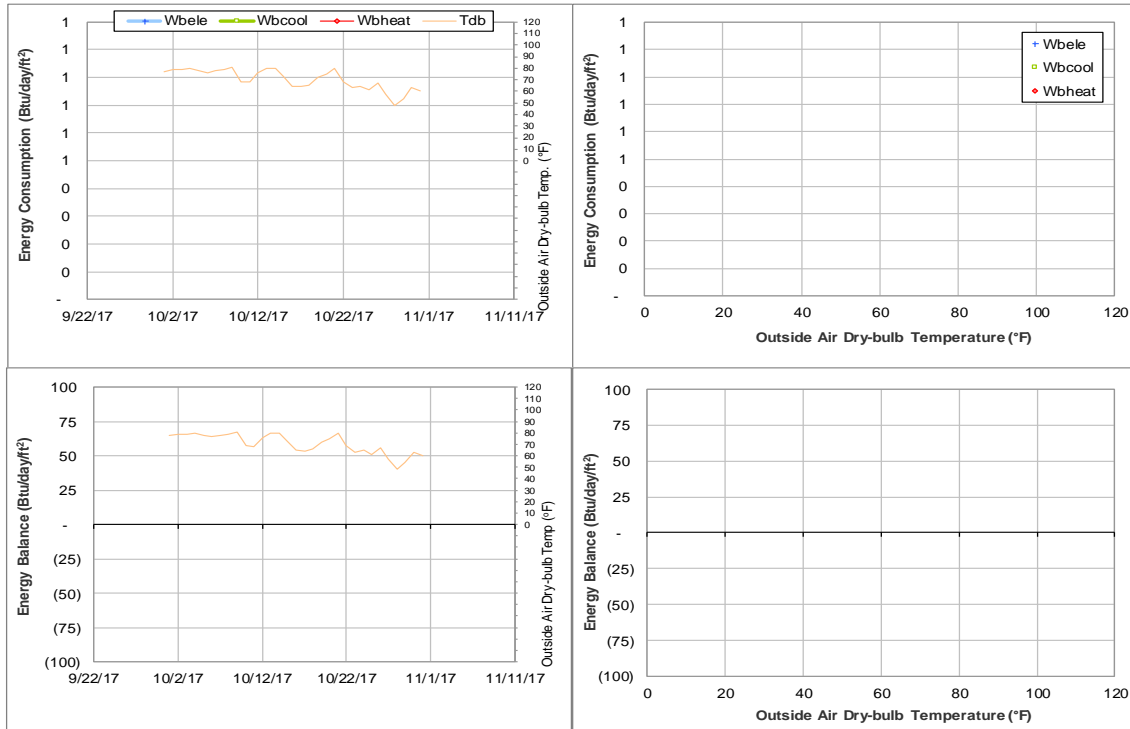


Figure IV-149 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during October 2017

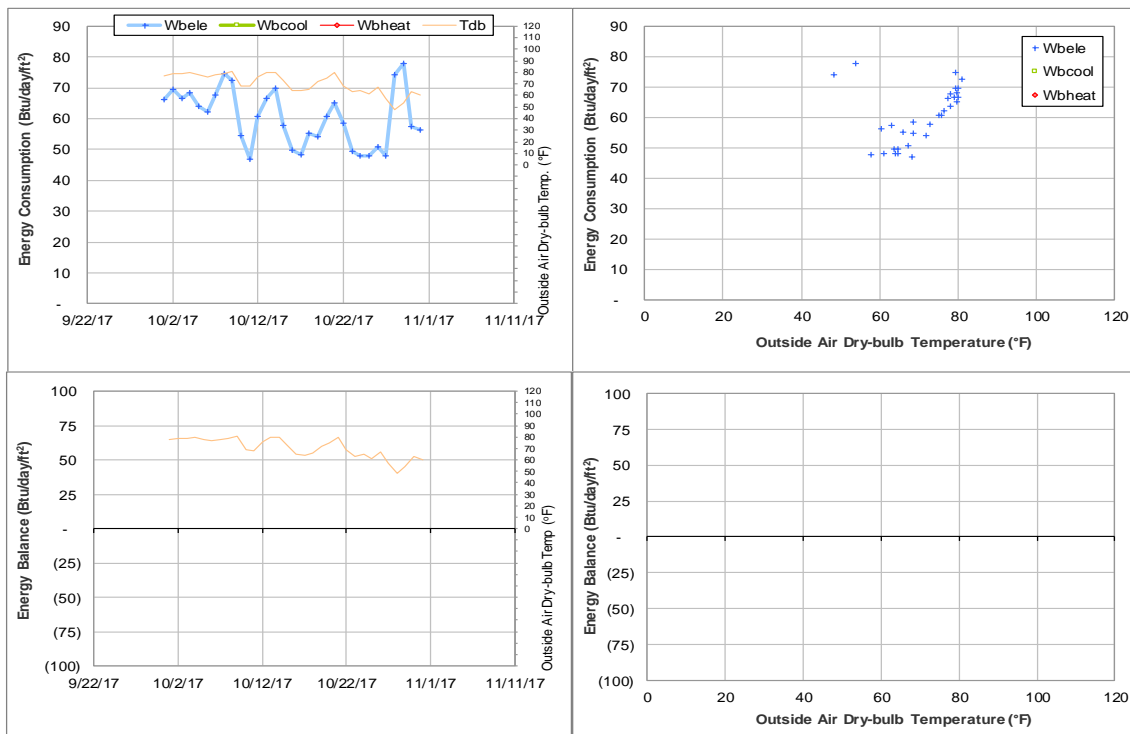


Figure IV-150 University Apartments - The Gardens H TAMU BLDG # 1456 Energy Balance Plot during October 2017

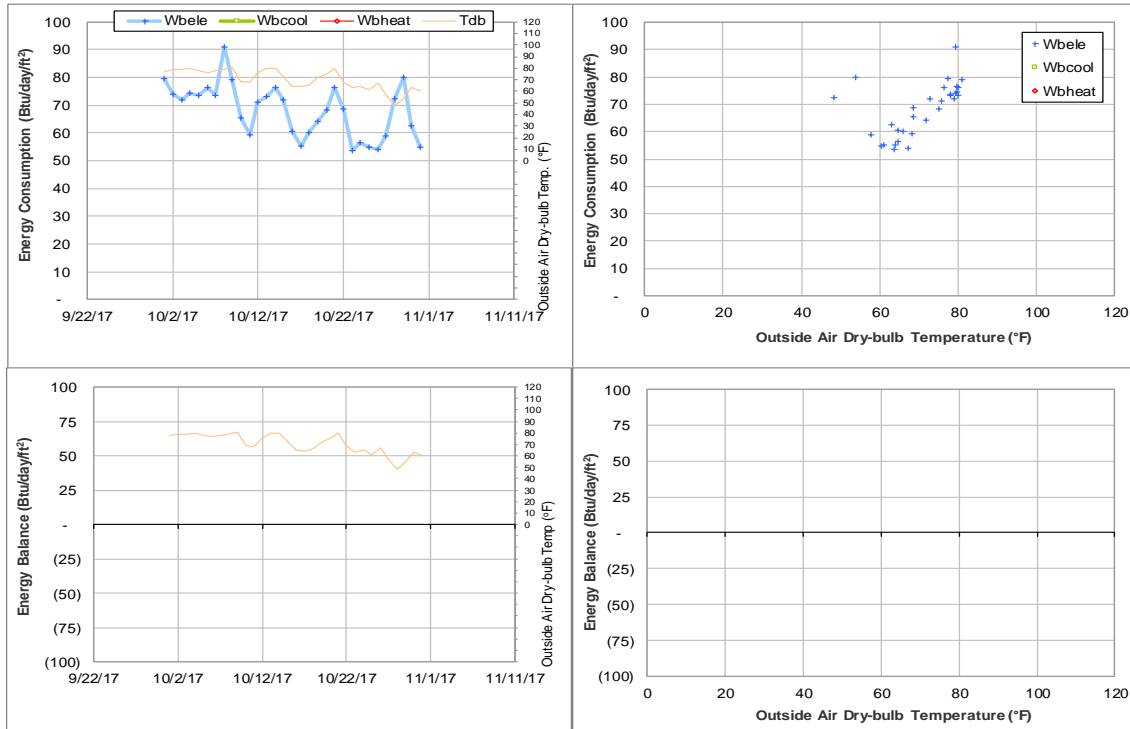


Figure IV-151 University Apartments - The Gardens M TAMU BLDG # 1457 Energy Balance Plot during October 2017

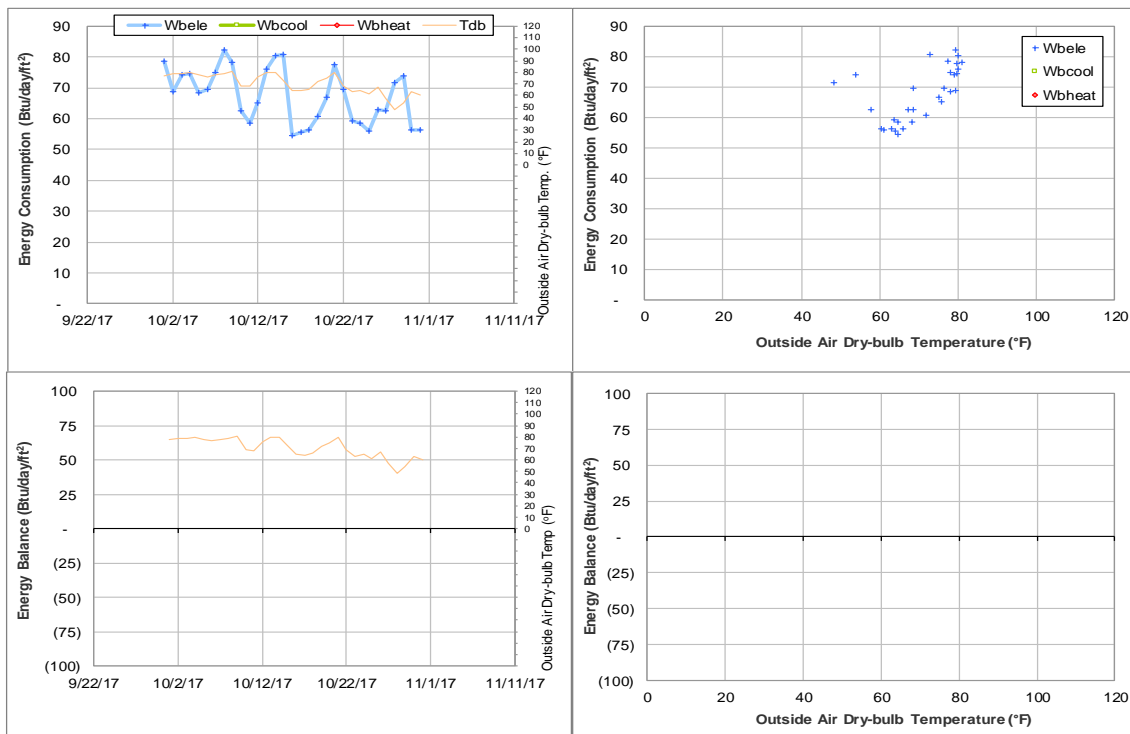


Figure IV-152 University Apartments - The Gardens N TAMU BLDG # 1458 Energy Balance Plot during October 2017

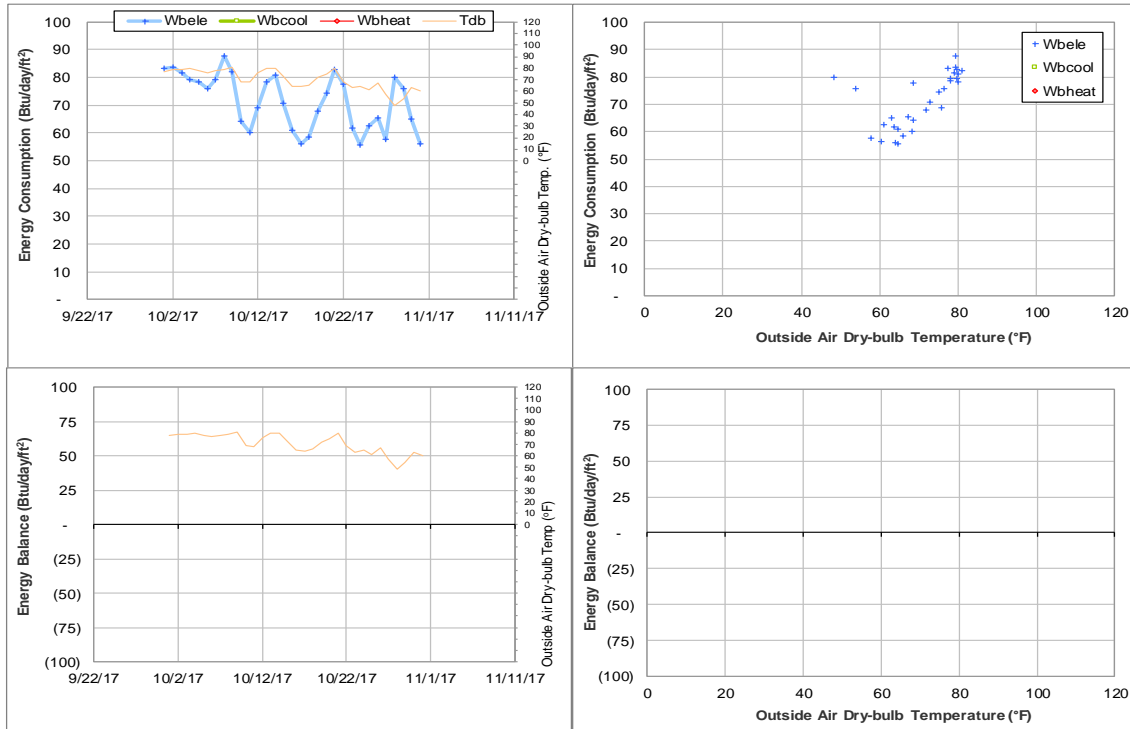


Figure IV-153 University Apartments - The Gardens P TAMU BLDG # 1459 Energy Balance Plot during October 2017

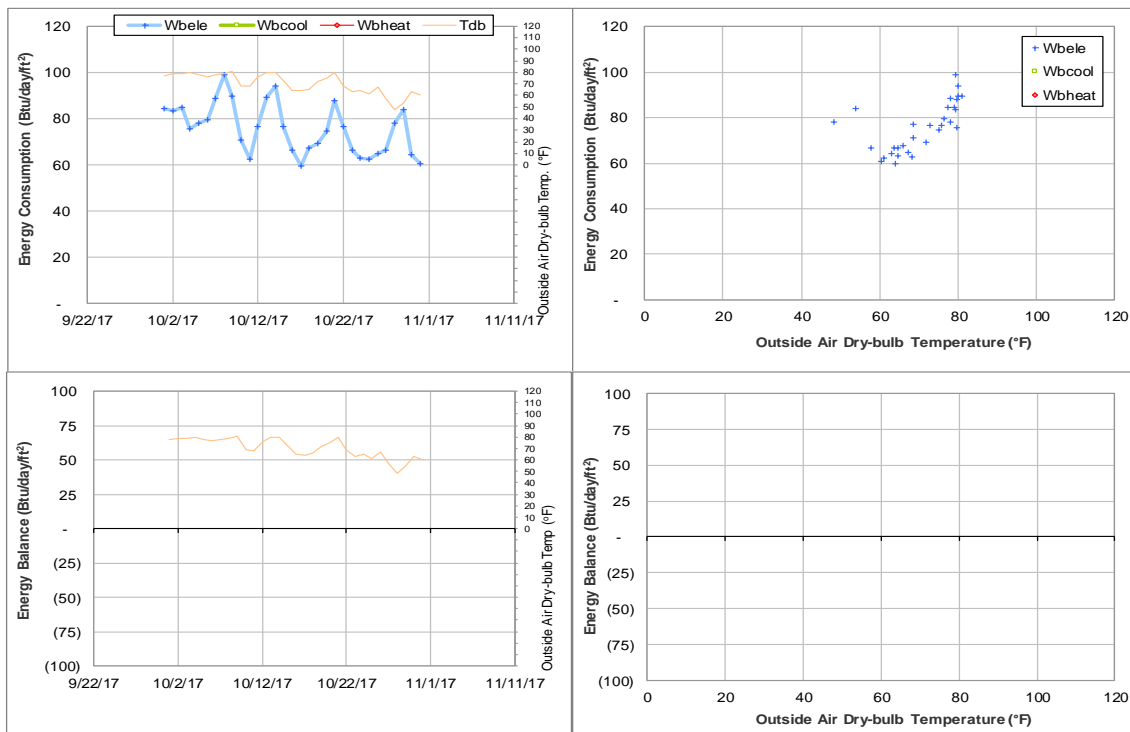


Figure IV-154 University Apartments - The Gardens Q TAMU BLDG # 1460 Energy Balance Plot during October 2017



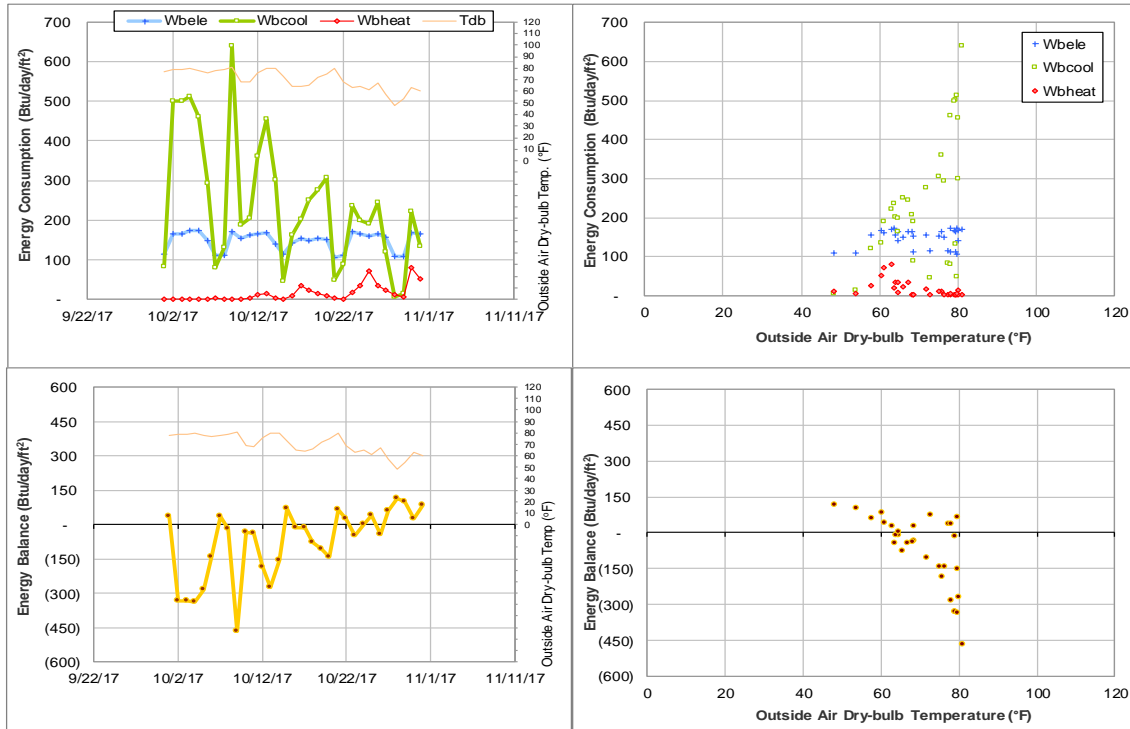


Figure IV-155 Utilities & Energy Services Business Office TAMU BLDG # 1497 Energy Balance Plot during October 2017

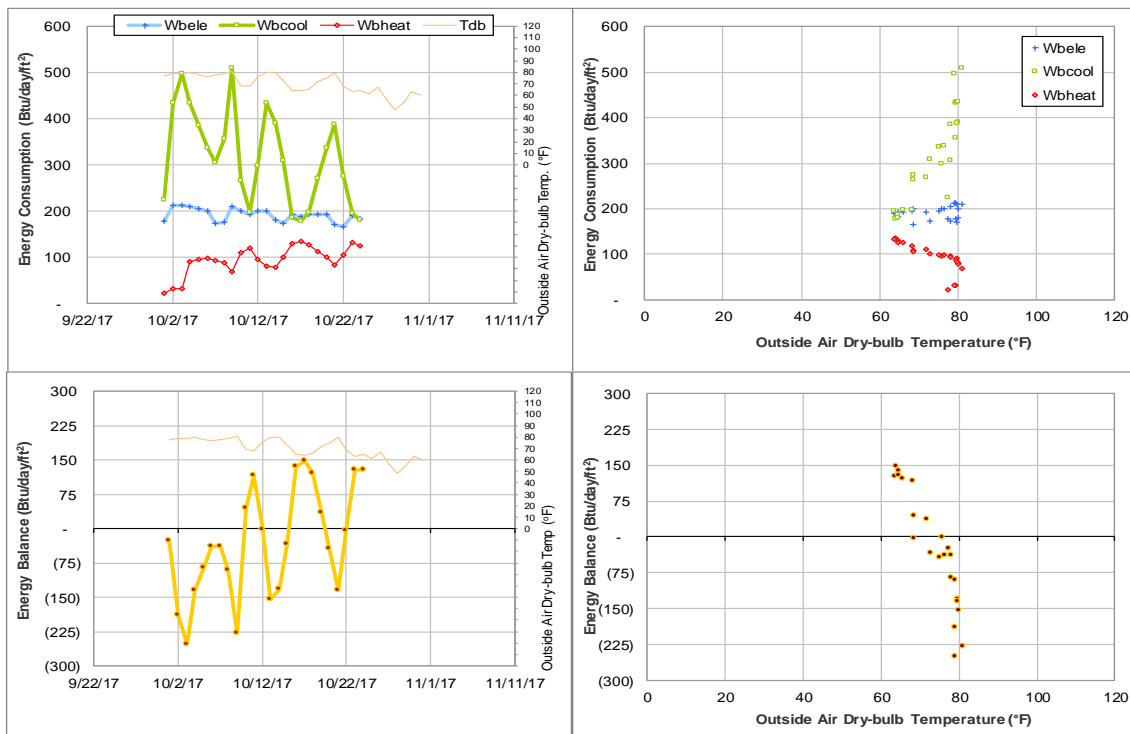


Figure IV-156 Kleberg Center TAMU BLDG # 1501 Energy Balance Plot during October 2017

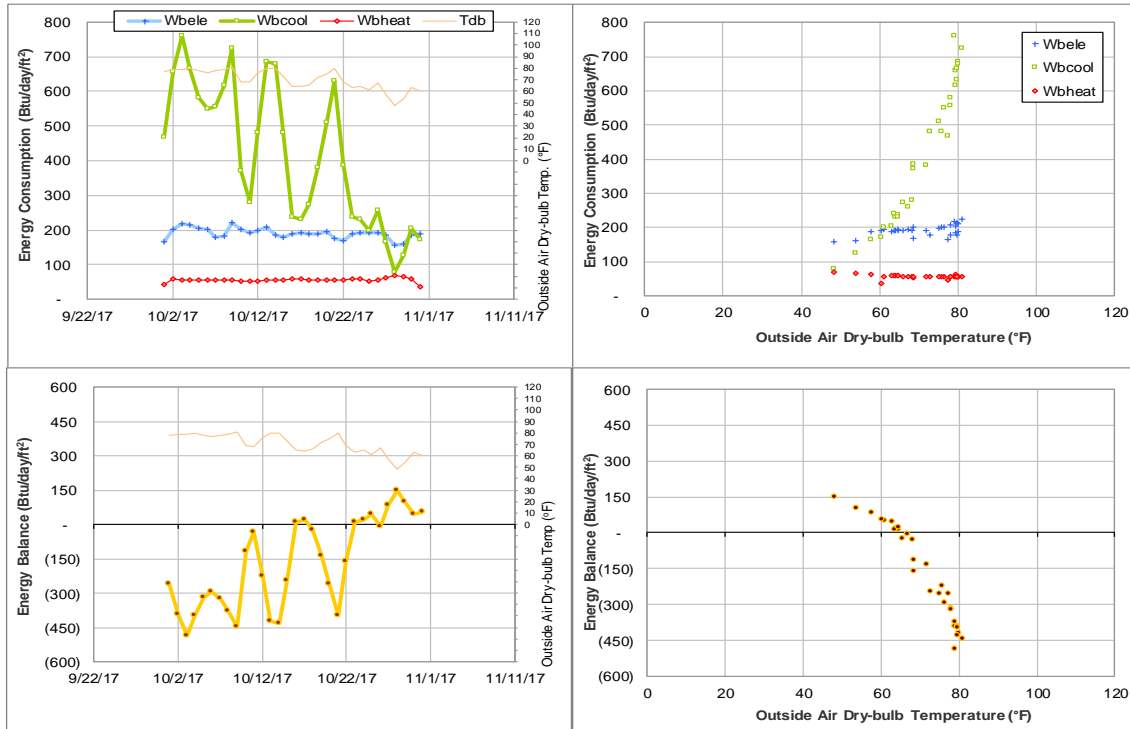


Figure IV-157 Heep Center TAMU BLDG # 1502 Energy Balance Plot during October 2017

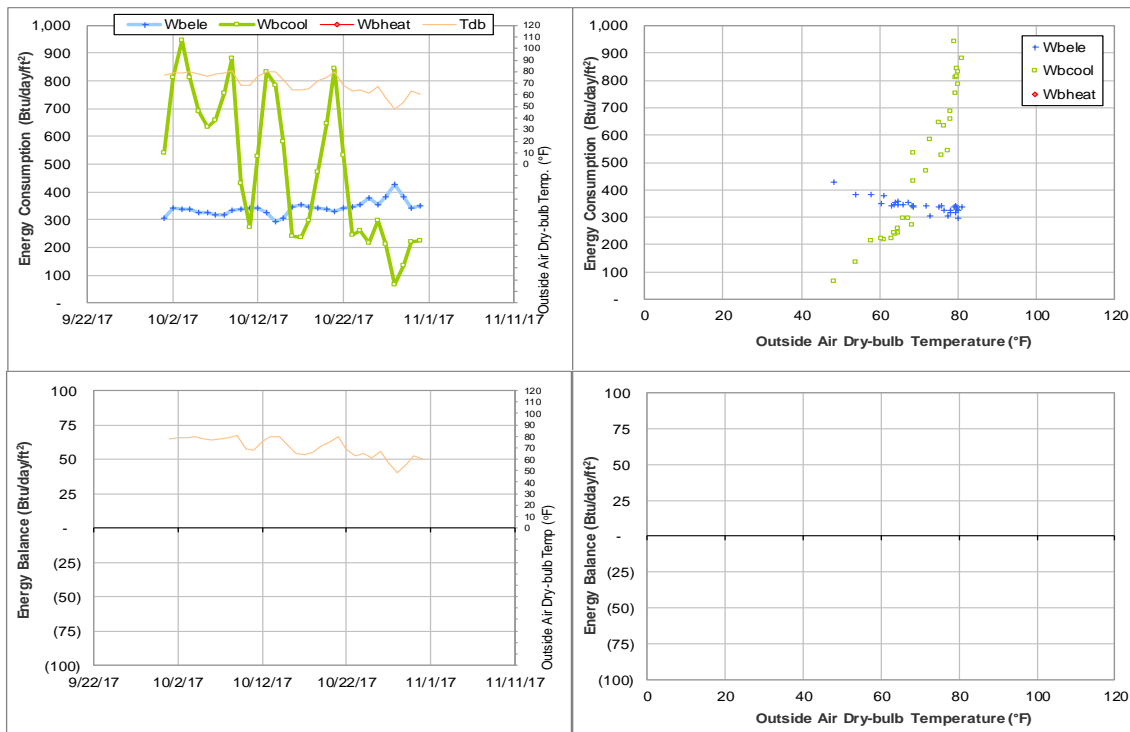


Figure IV-158 Cater-Mattil Hall TAMU BLDG # 1503 Energy Balance Plot during October 2017

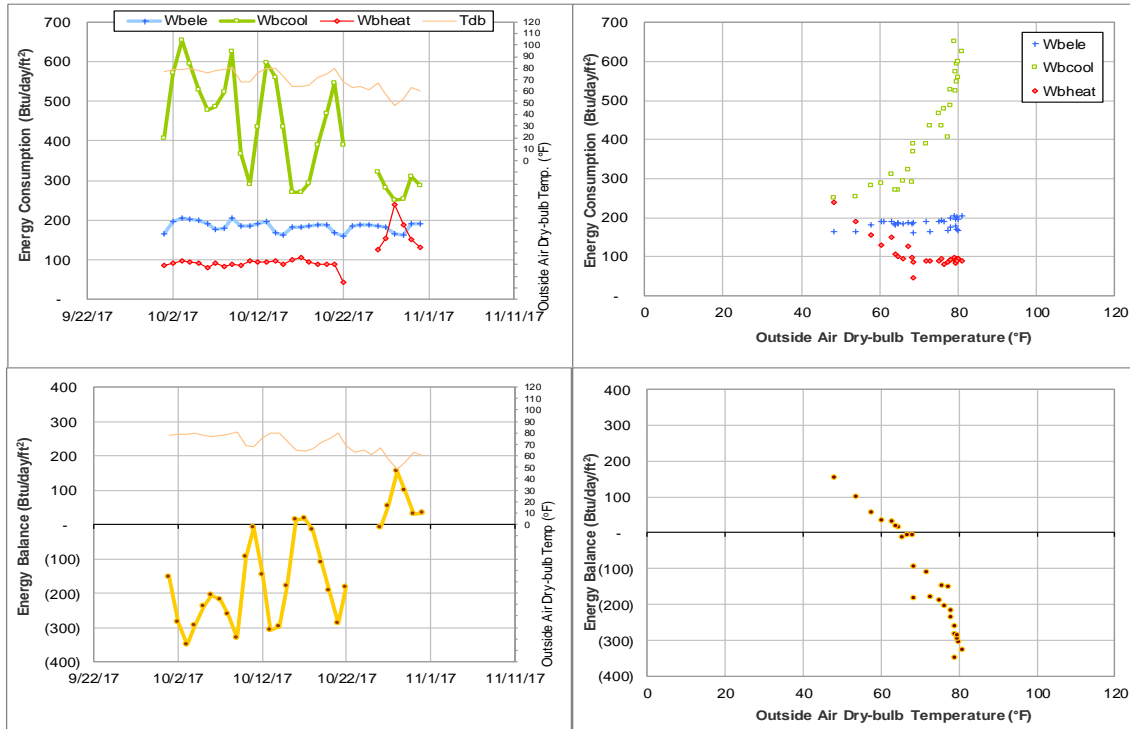


Figure IV-159 Reynolds Medical Sciences Building TAMU BLDG # 1504 Energy Balance Plot during October 2017

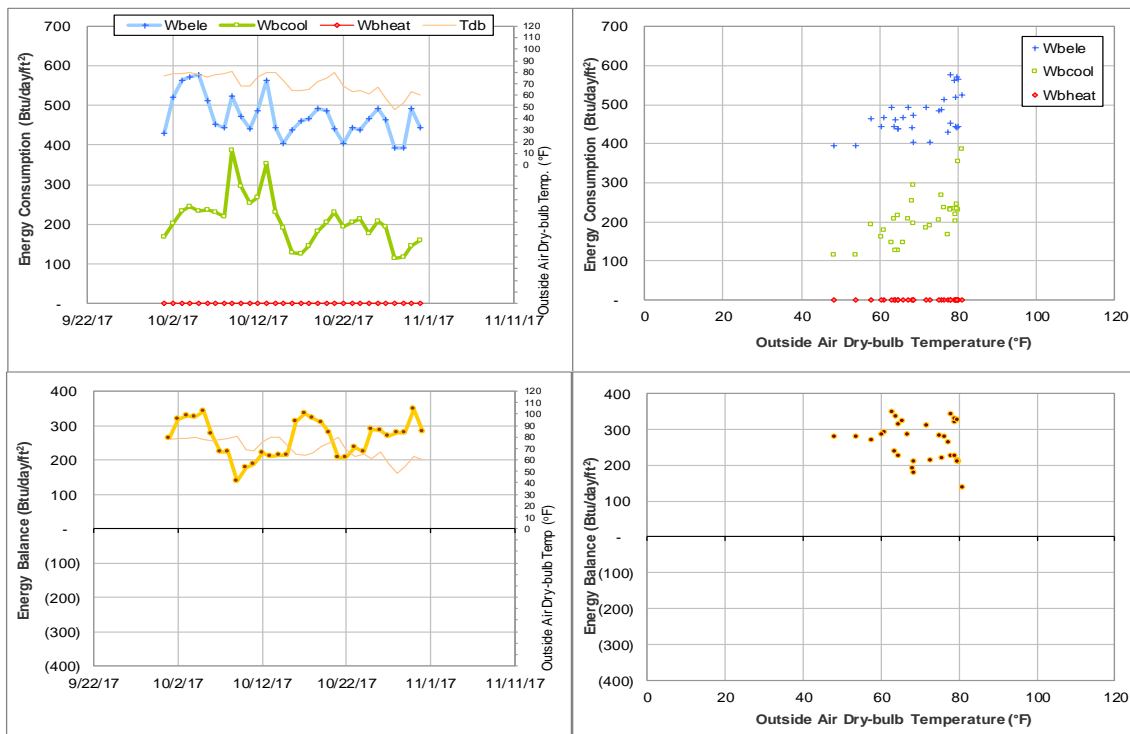


Figure IV-160 Rosenthal Meat Science & Technology Center TAMU BLDG # 1505 Energy Balance Plot during October 2017

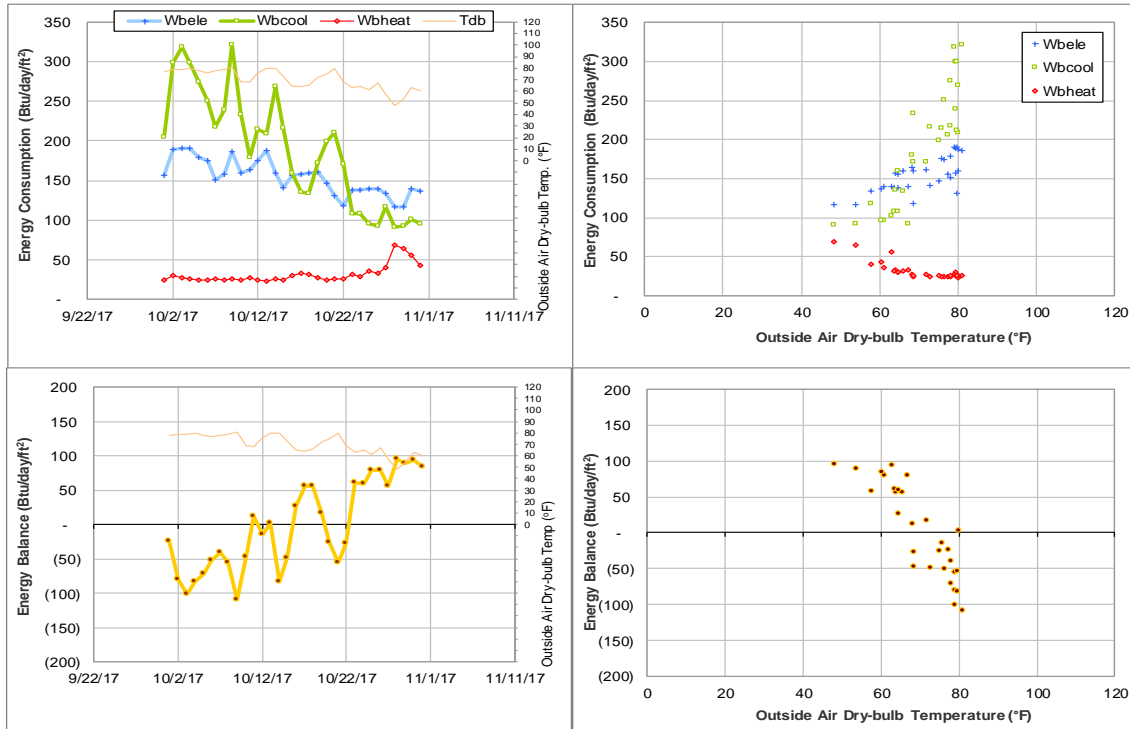


Figure IV-161 Horticulture-Forest Science Building TAMU BLDG # 1506 Energy Balance Plot during October 2017

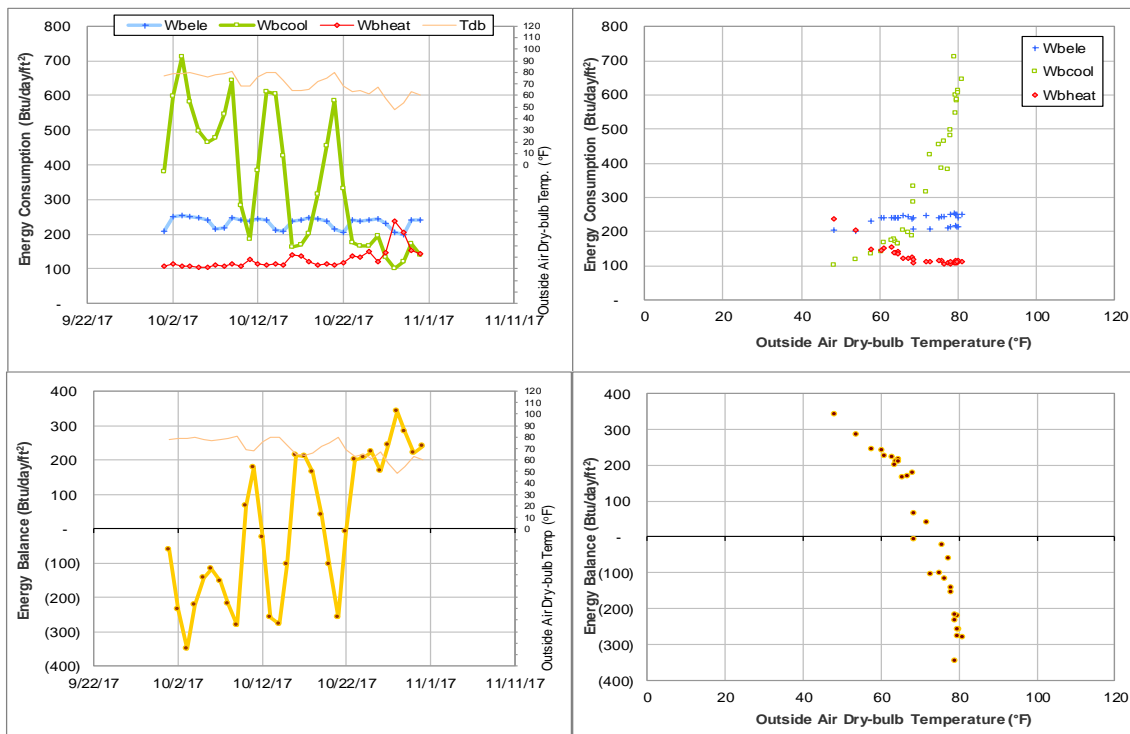


Figure IV-162 Biochemistry-Biophysics Building TAMU BLDG # 1507 Energy Balance Plot during October 2017

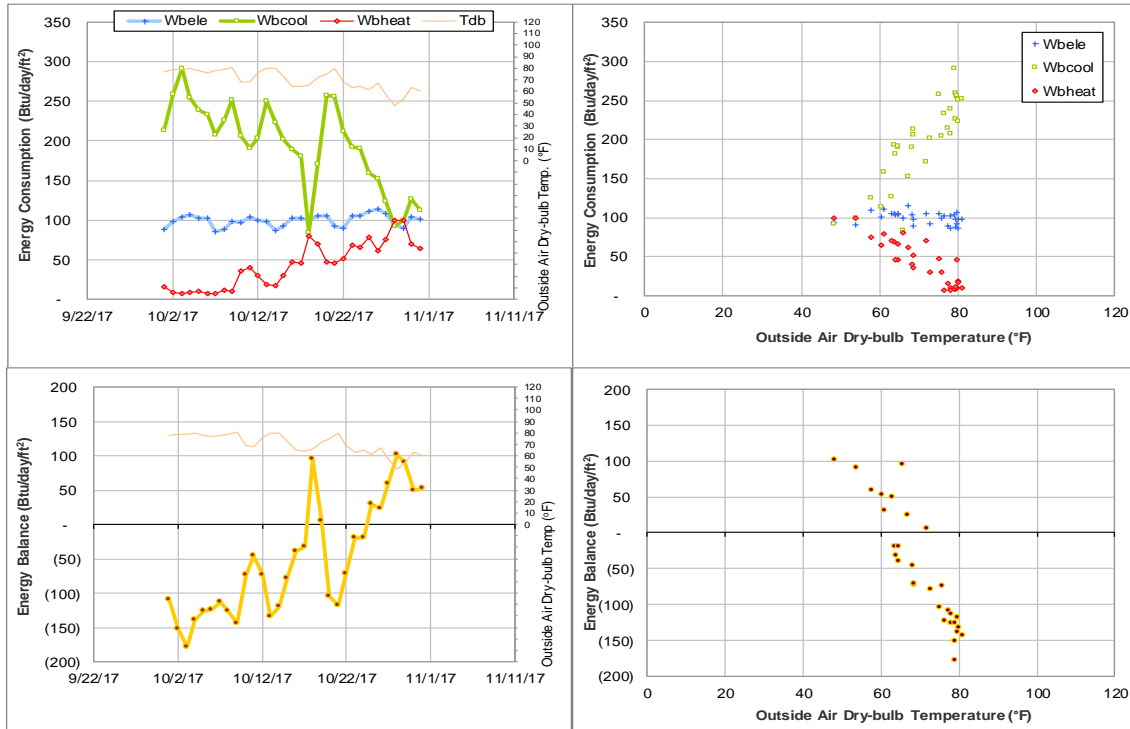


Figure IV-163 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during October 2017

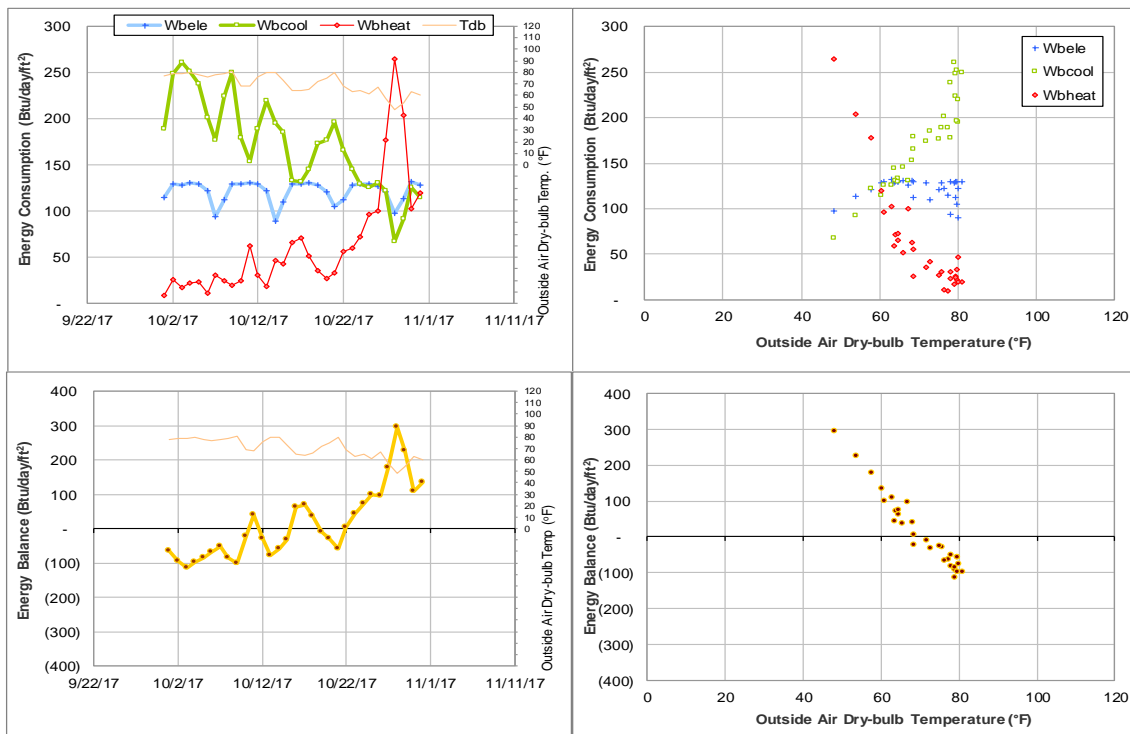


Figure IV-164 Medical Sciences Library TAMU BLDG # 1509 Energy Balance Plot during October 2017

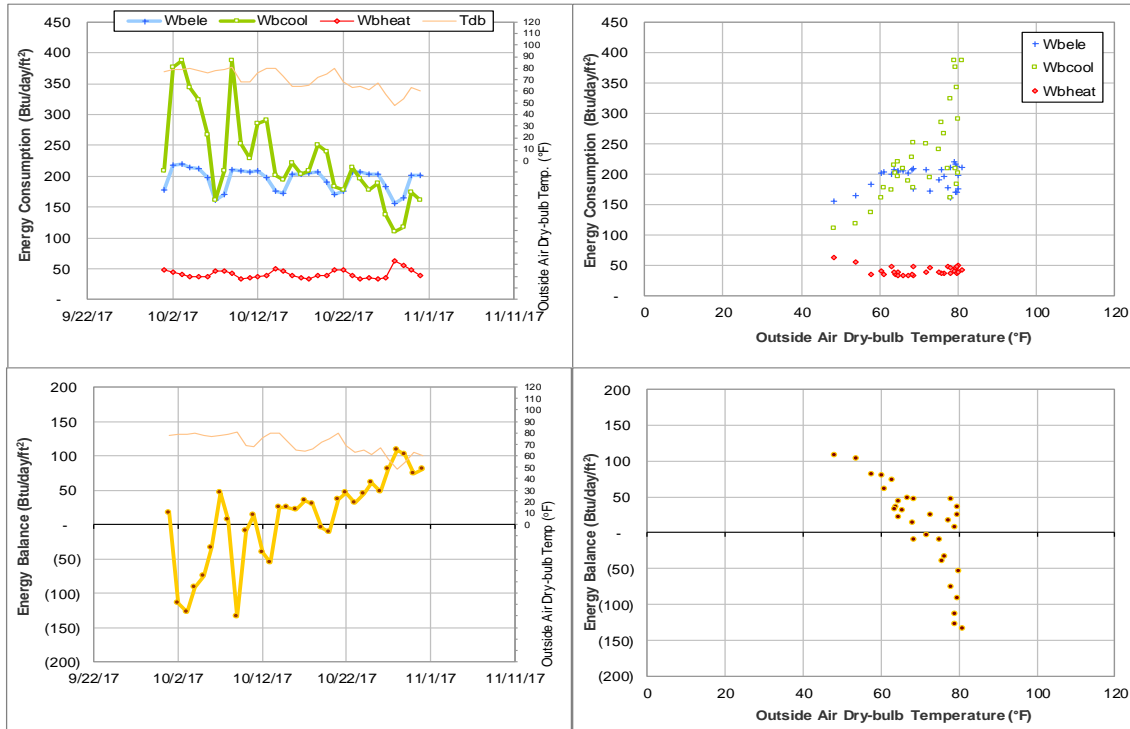


Figure IV-165 Wehner Building TAMU BLDG # 1510 Energy Balance Plot during October 2017

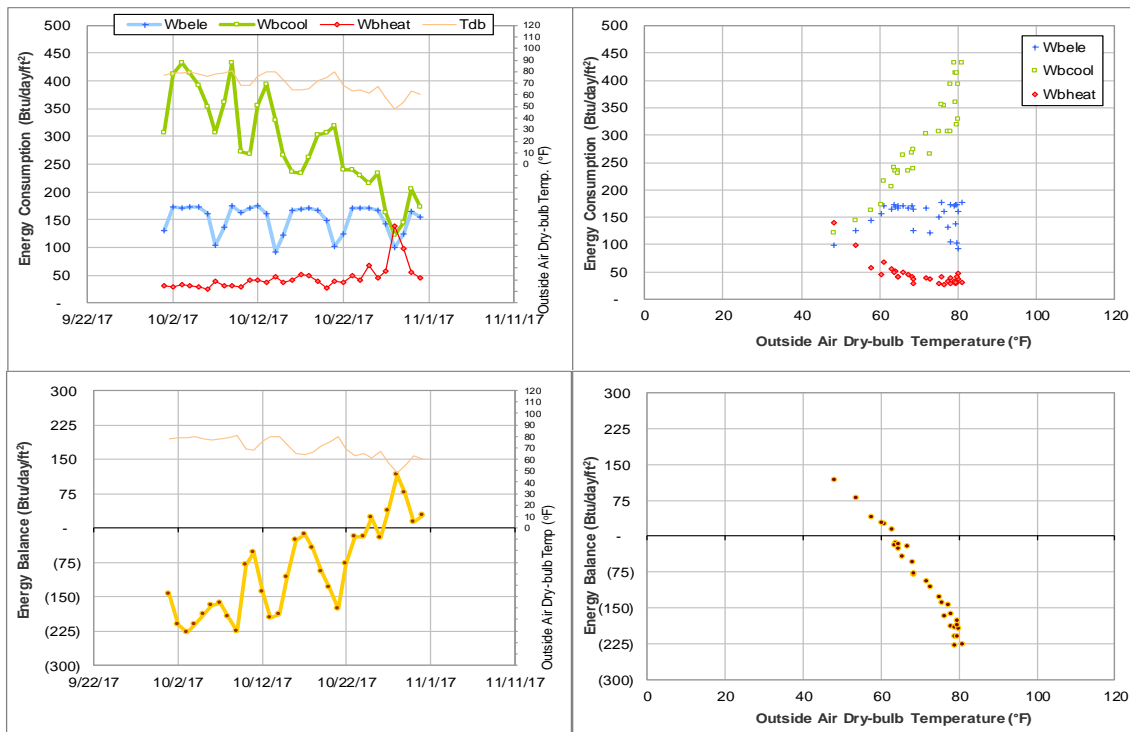


Figure IV-166 West Campus Library Facility TAMU BLDG # 1511 Energy Balance Plot during October 2017

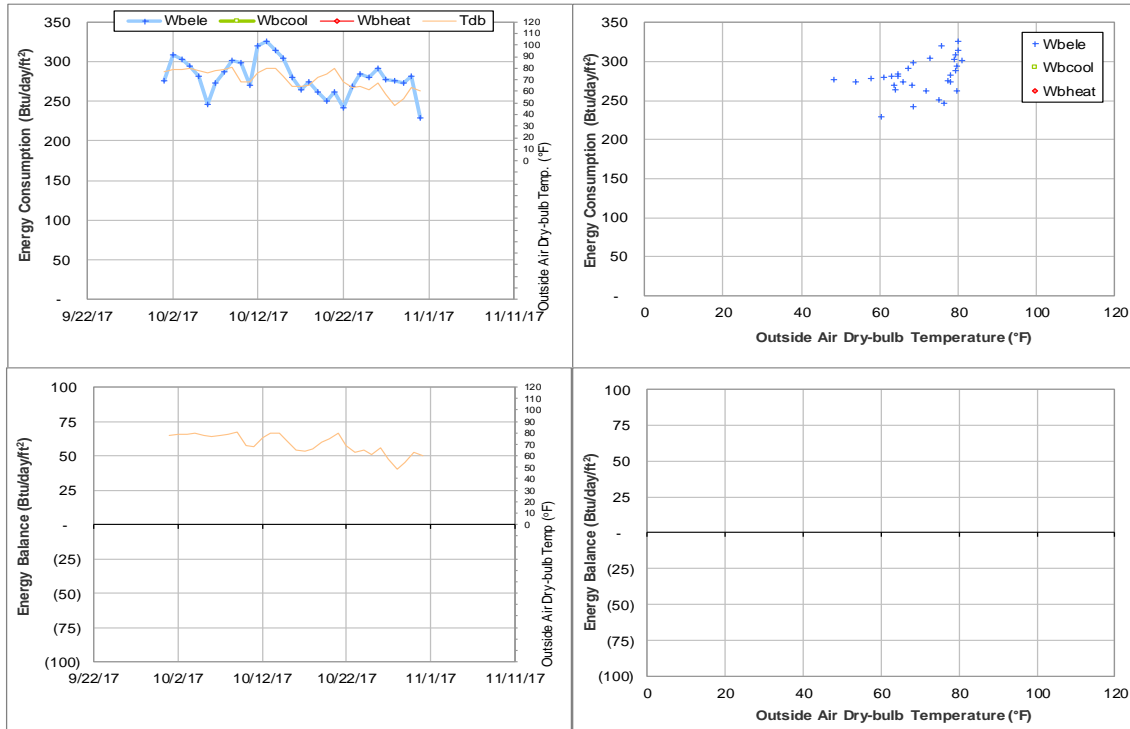


Figure IV-167 Southern Crop Improvement Greenhouse TAMU BLDG # 1512 Energy Balance Plot during October 2017

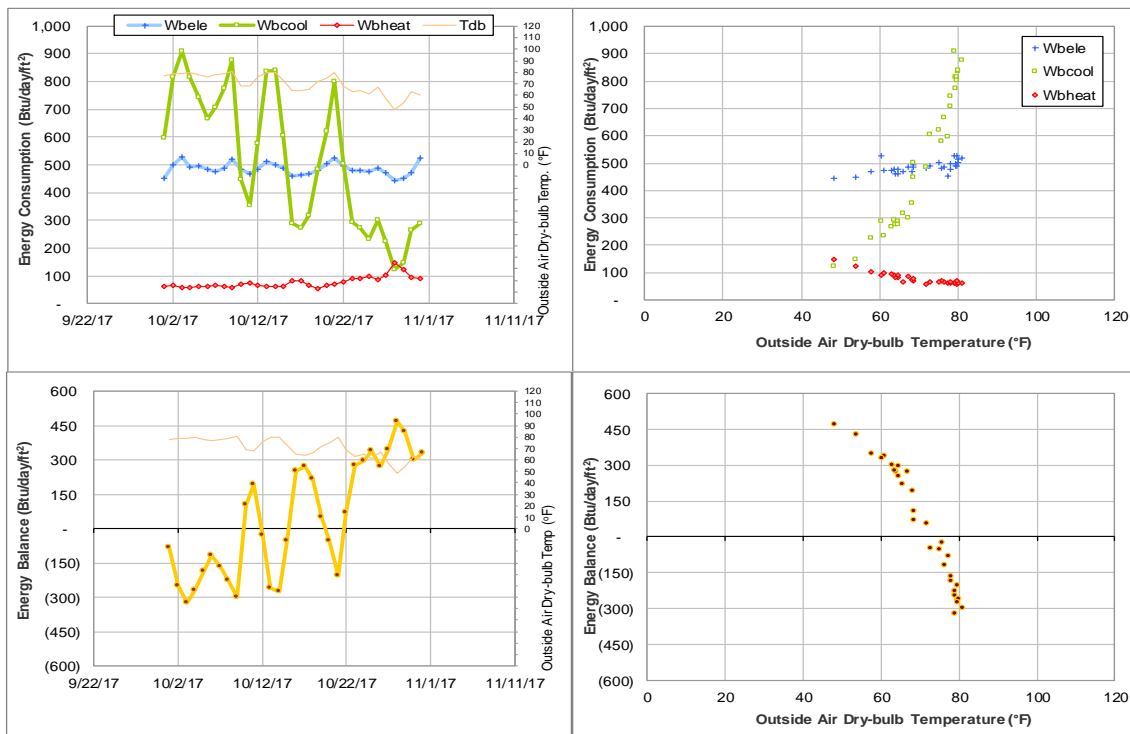


Figure IV-168 Borlaug Center for Southern Crop Improvement TAMU BLDG # 1513 Energy Balance Plot during October 2017

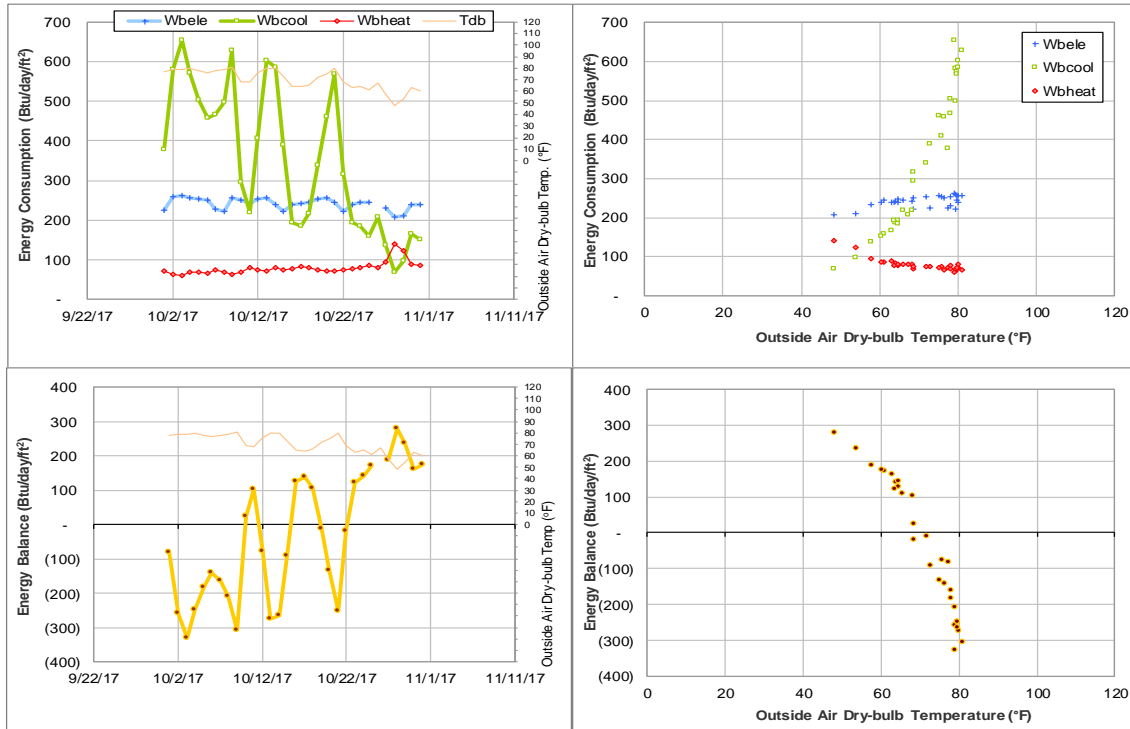


Figure IV-169 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during October 2017

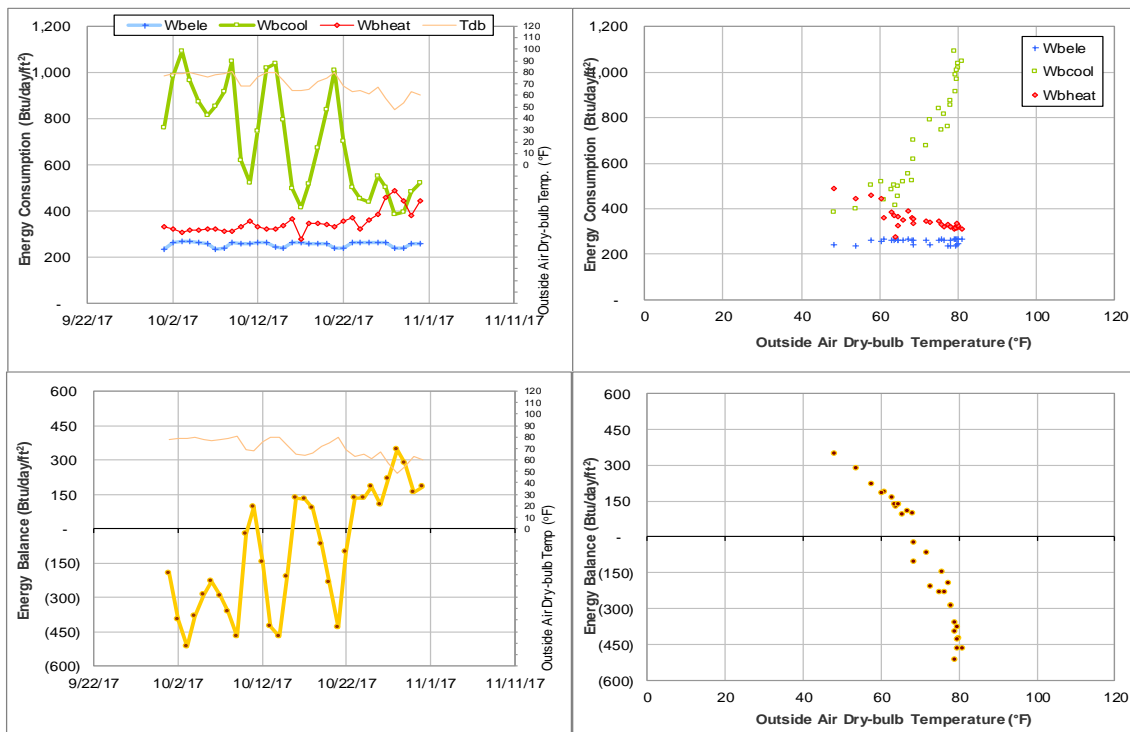


Figure IV-170 Nuclear Magnetic Resonance Facility TAMU BLDG # 1525 Energy Balance Plot during October 2017



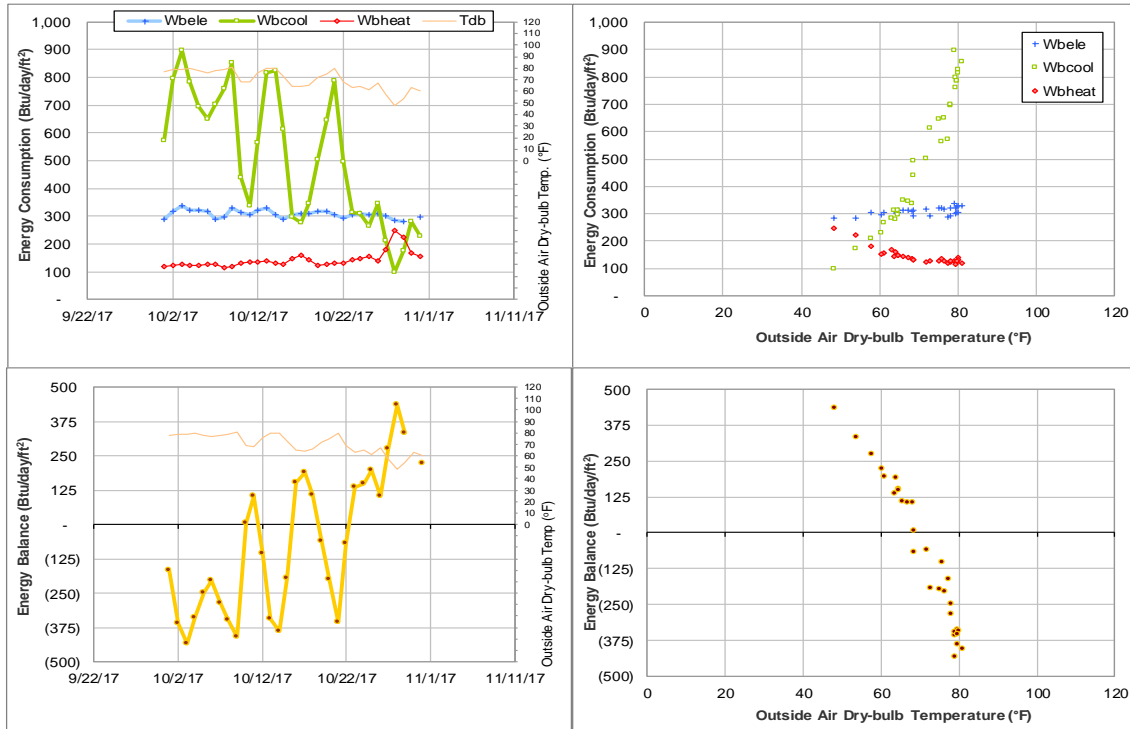


Figure IV-171 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during October 2017

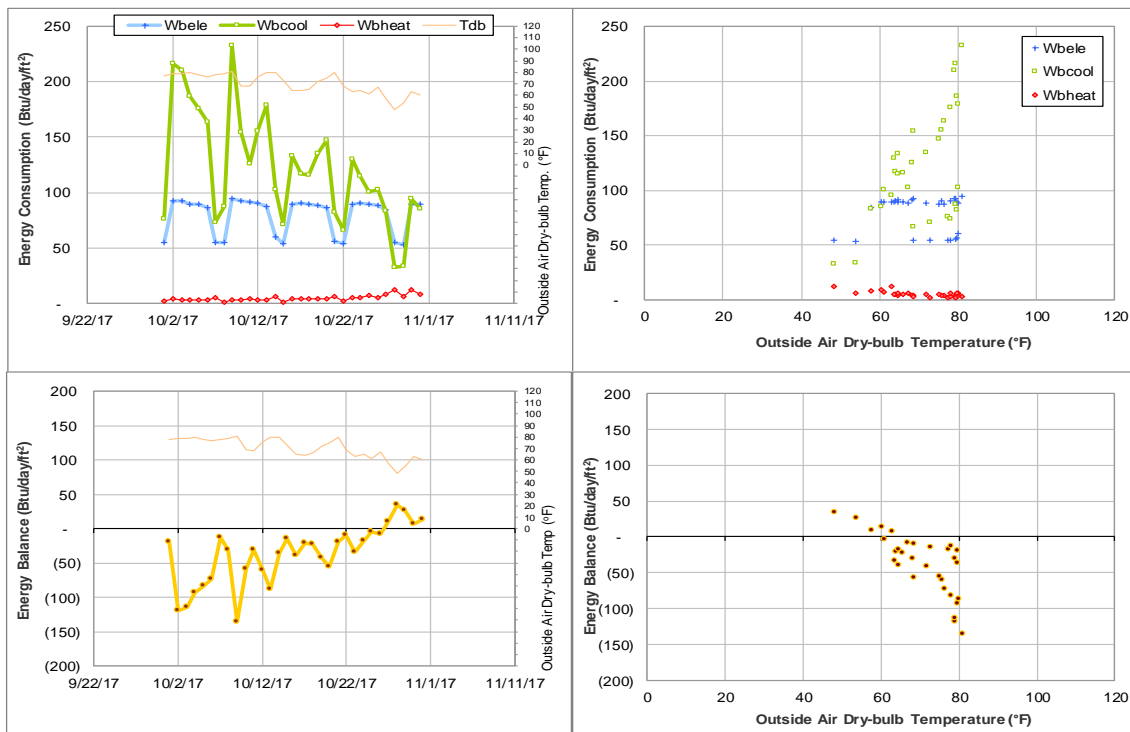


Figure IV-172 Agriculture and Life Sciences Building TAMU BLDG # 1535 Energy Balance Plot during October 2017

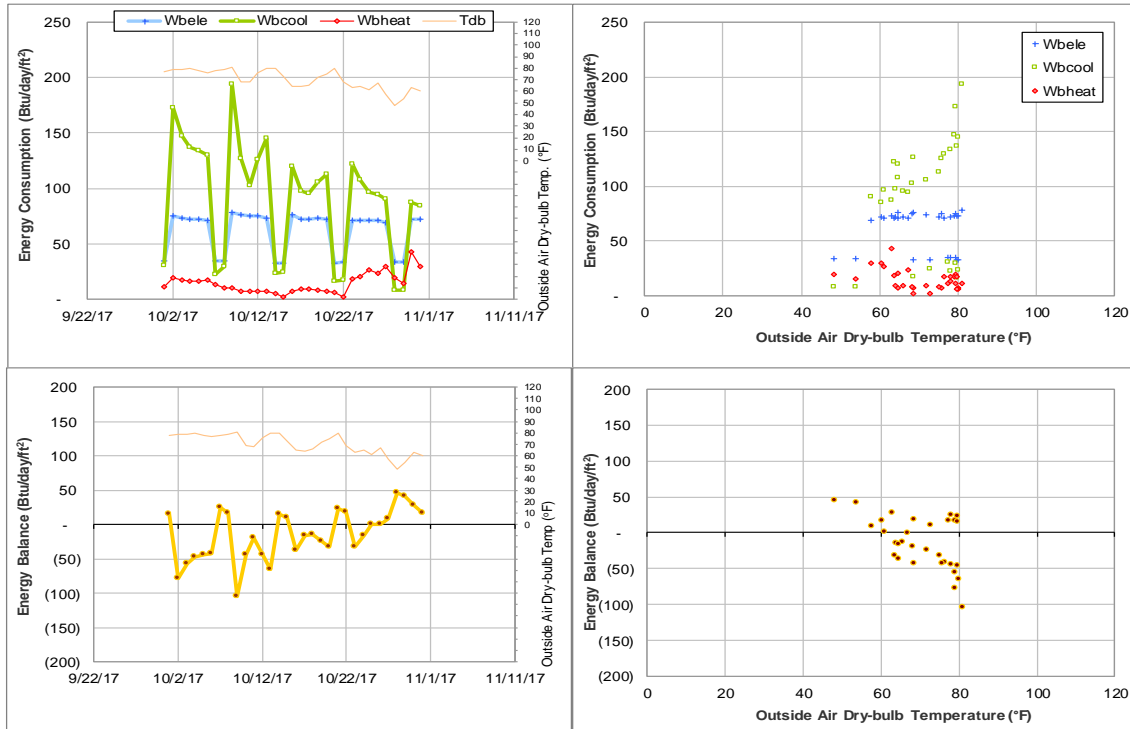


Figure IV-173 AgriLife Services Building TAMU BLDG # 1536 Energy Balance Plot during October 2017

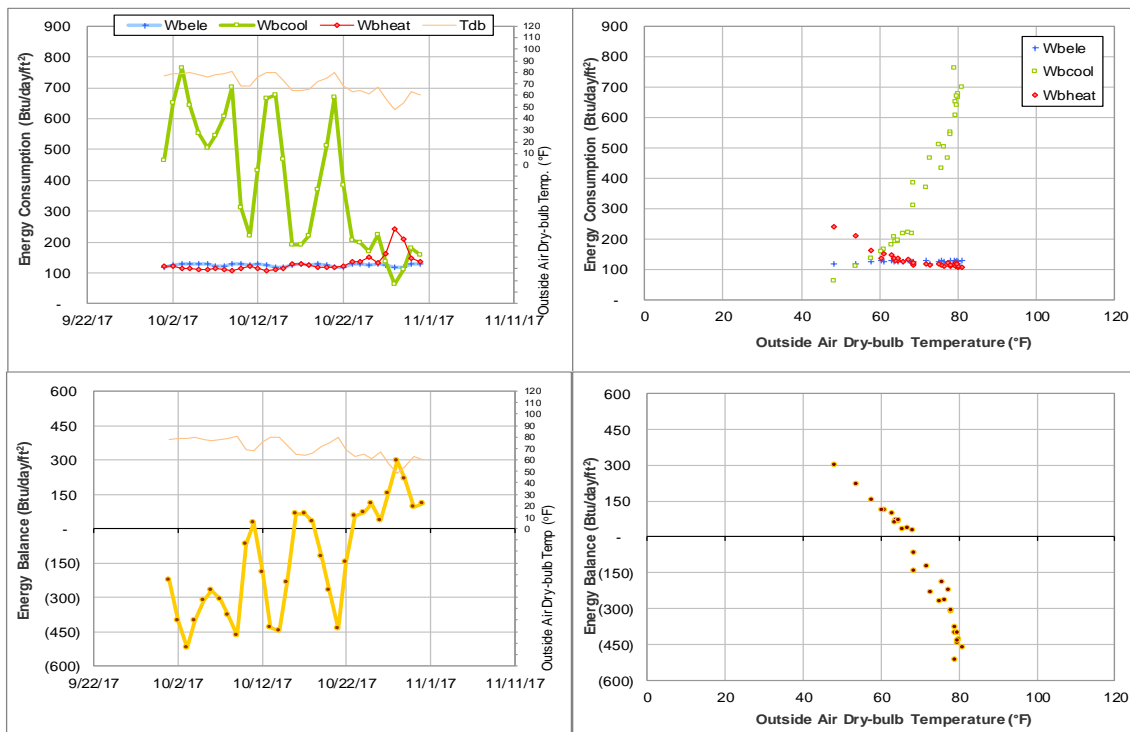


Figure IV-174 Wildlife Fisheries & Ecological Sciences Building TAMU BLDG # 1537 Energy Balance Plot during October 2017

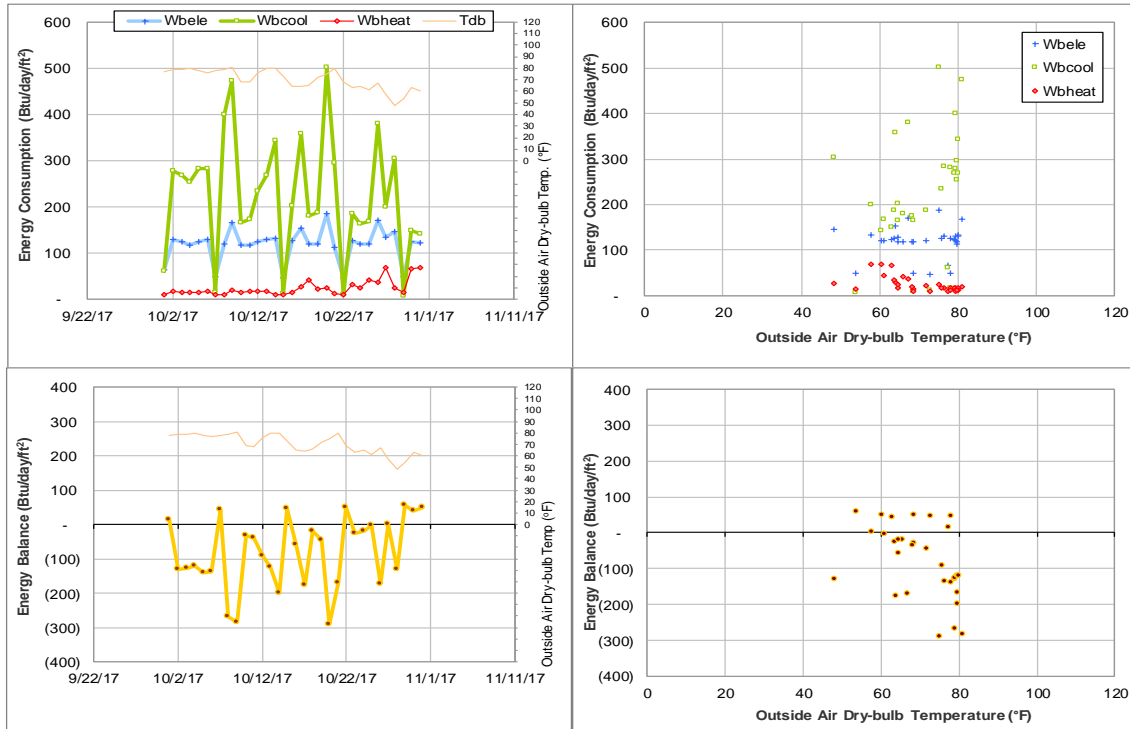


Figure IV-175 Agriculture Program Visitors Center TAMU BLDG # 1538 Energy Balance Plot during October 2017

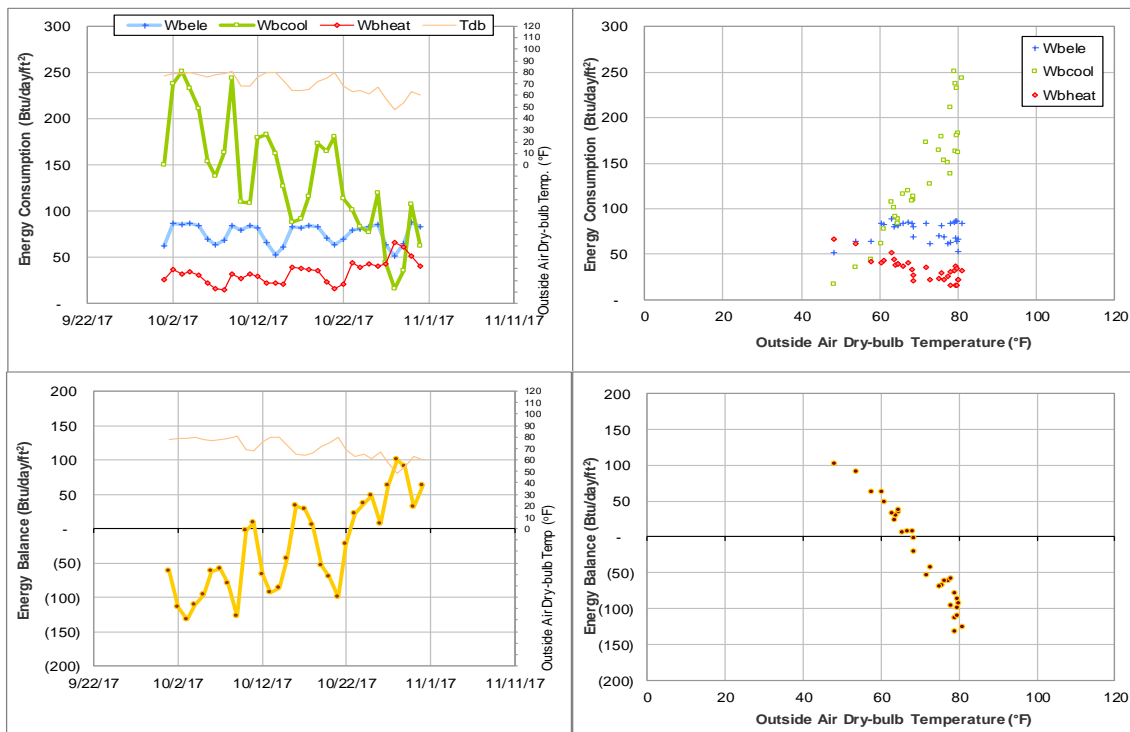


Figure IV-176 Physical Education Activity Program Building TAMU BLDG # 1540 Energy Balance Plot during October 2017

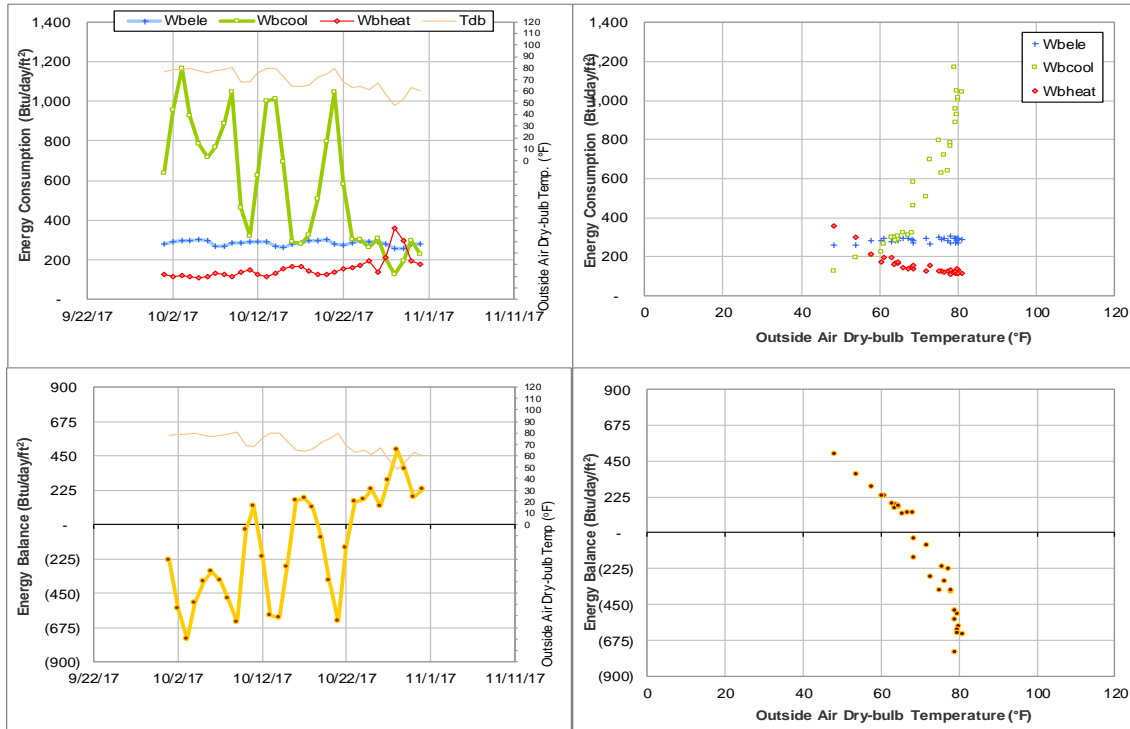


Figure IV-177 Human Clinical Research Building TAMU BLDG # 1542 Energy Balance Plot during October 2017

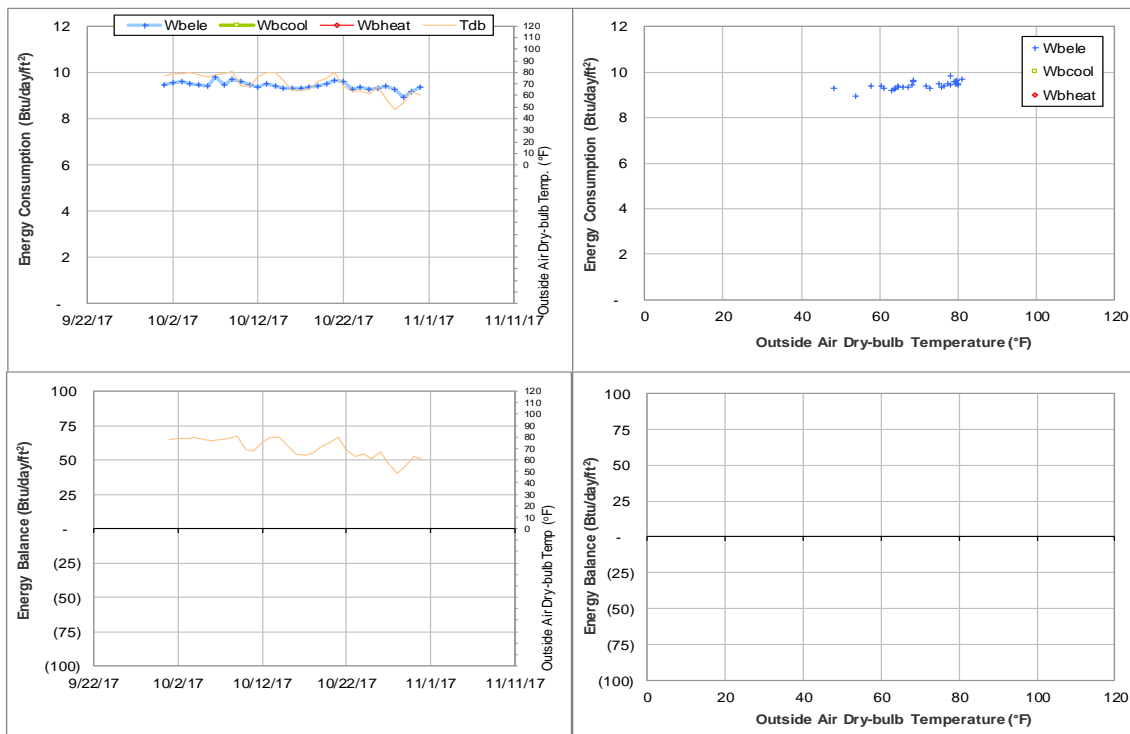


Figure IV-178 Cain Garage TAMU BLDG # 1544 Energy Balance Plot during October 2017

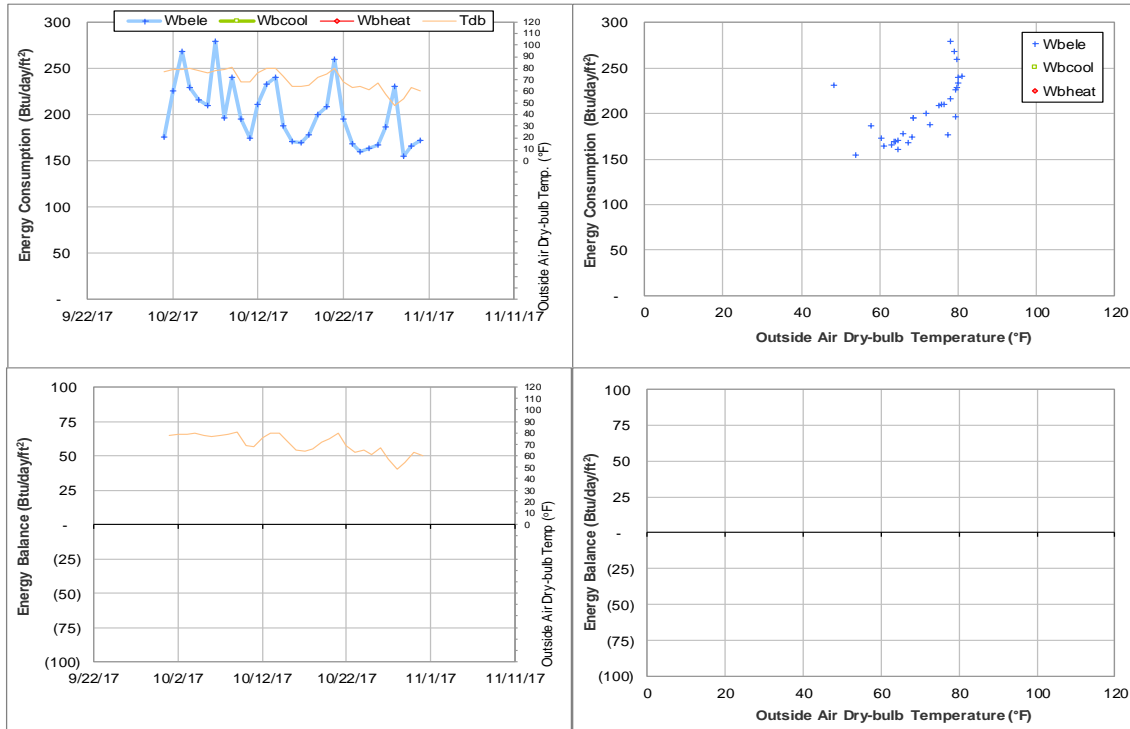


Figure IV-179 Olsen Field at Bluebell Park TAMU BLDG # 1550 Energy Balance Plot during October 2017

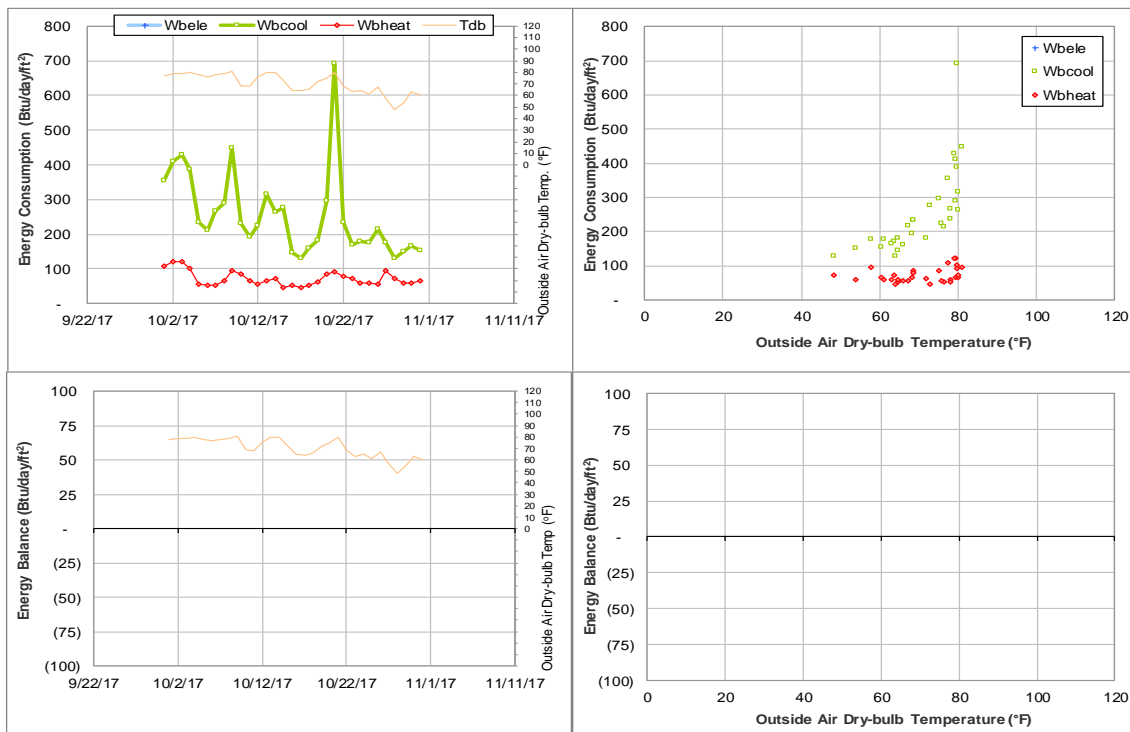


Figure IV-180 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 and #1558 Energy Balance Plot during October 2017

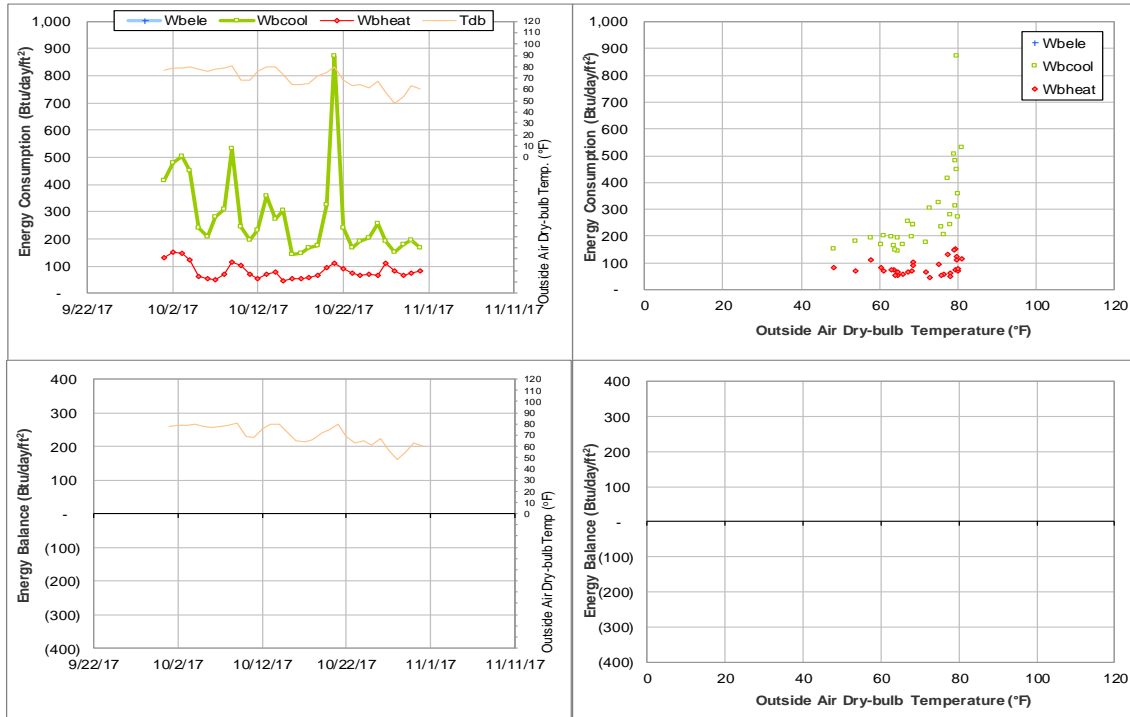


Figure IV-181 Reed Arena TAMU BLDG # 1554 Energy Balance Plot during October 2017

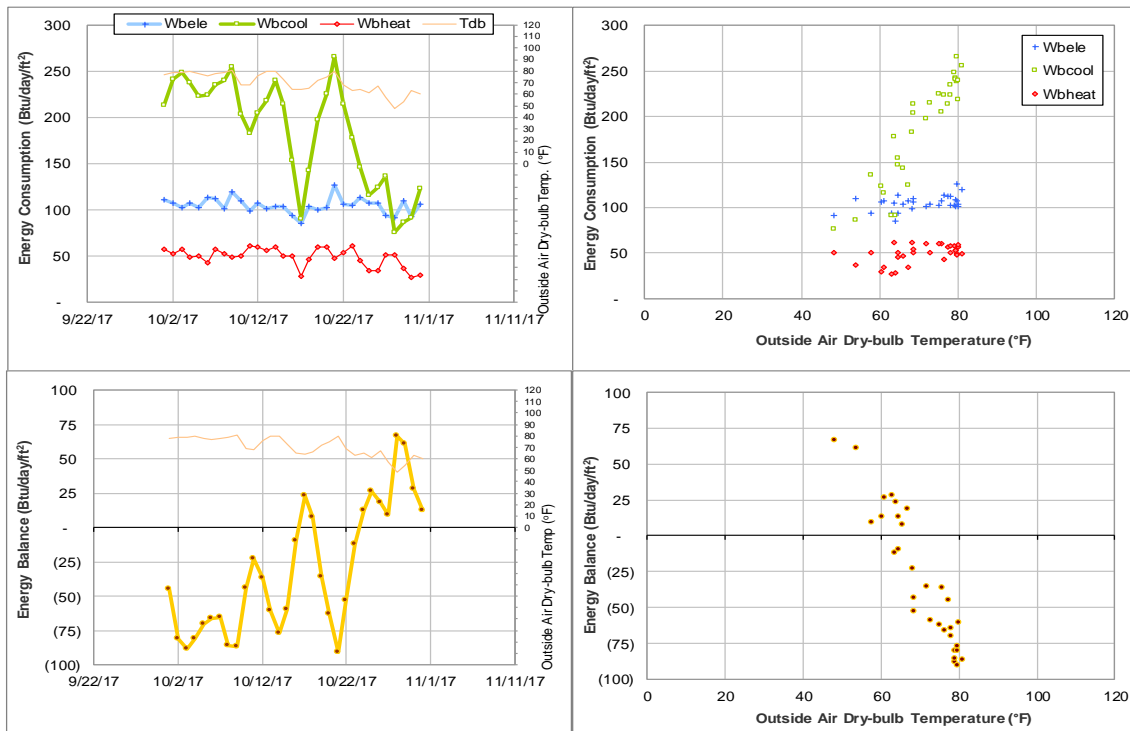


Figure IV-182 Cox-McFerrin Center for Aggie Basketball TAMU BLDG # 1558 Energy Balance Plot during October 2017

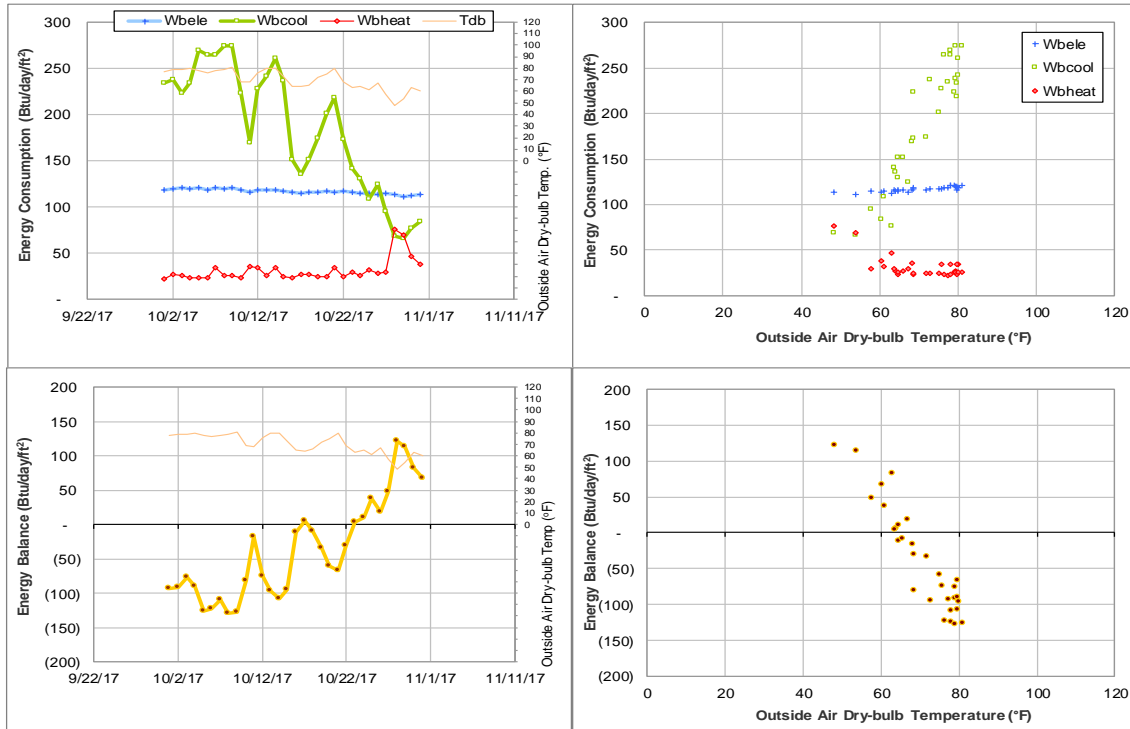


Figure IV-183 West Campus Parking Garage TAMU BLDG # 1559 Energy Balance Plot during October 2017

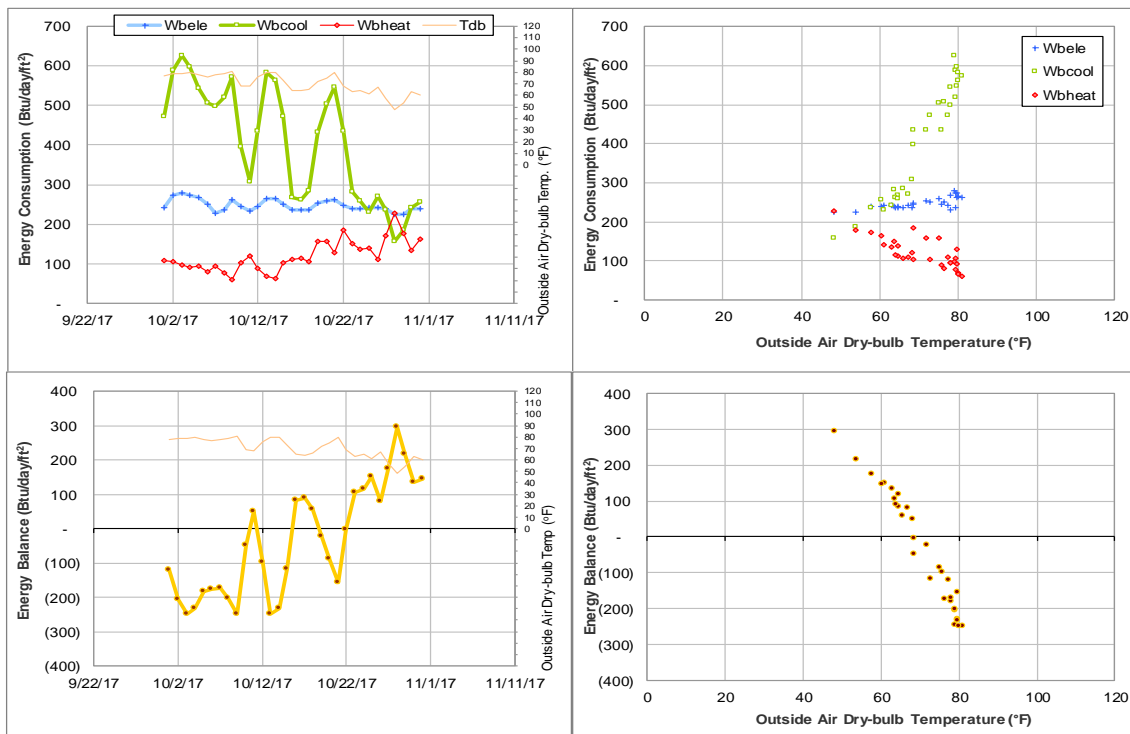


Figure IV-184 Student Recreation Center TAMU BLDG # 1560 Energy Balance Plot during October 2017

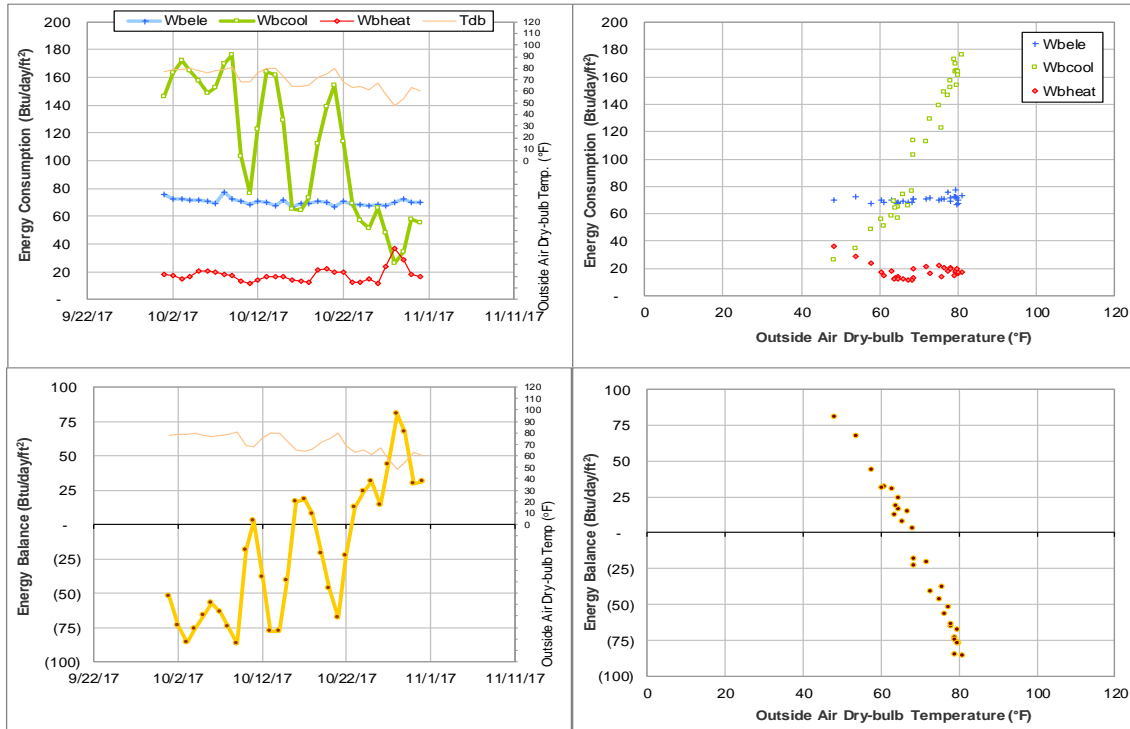


Figure IV-185 White Creek Apartment 1 and White Creek Apts Activity Center TAMU BLDG # 1589 Energy Balance Plot during October 2017

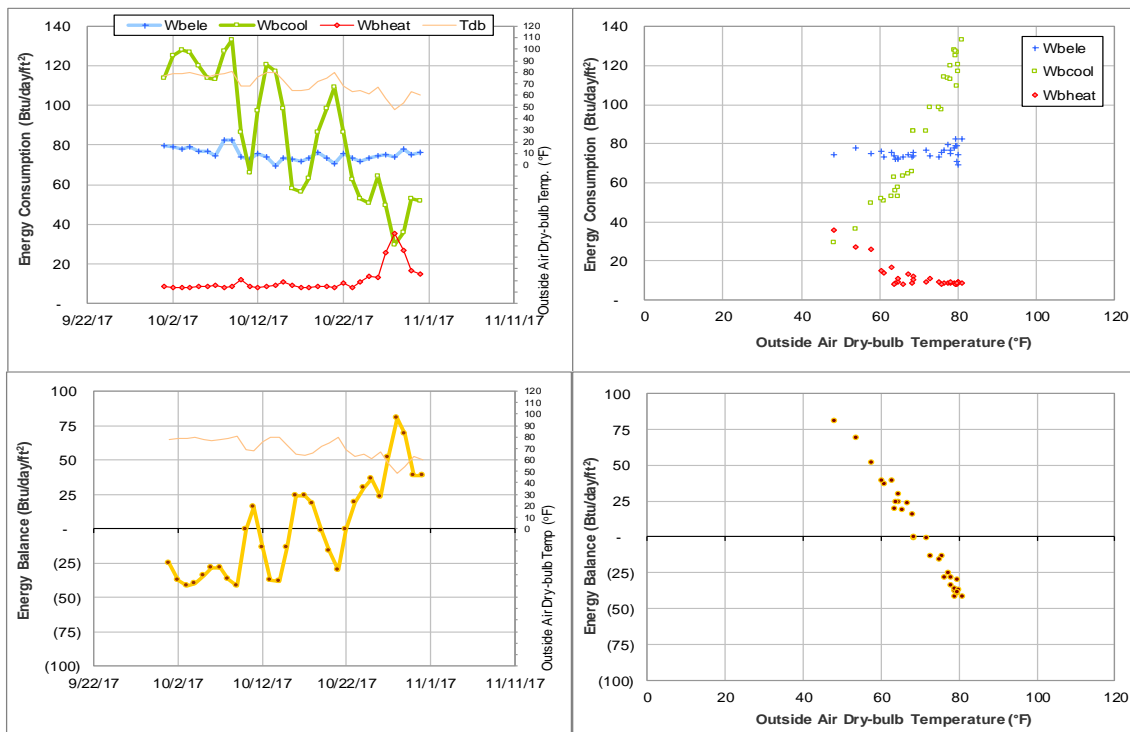


Figure IV-186 White Creek Apartment 2 TAMU BLDG # 1591 Energy Balance Plot during October 2017



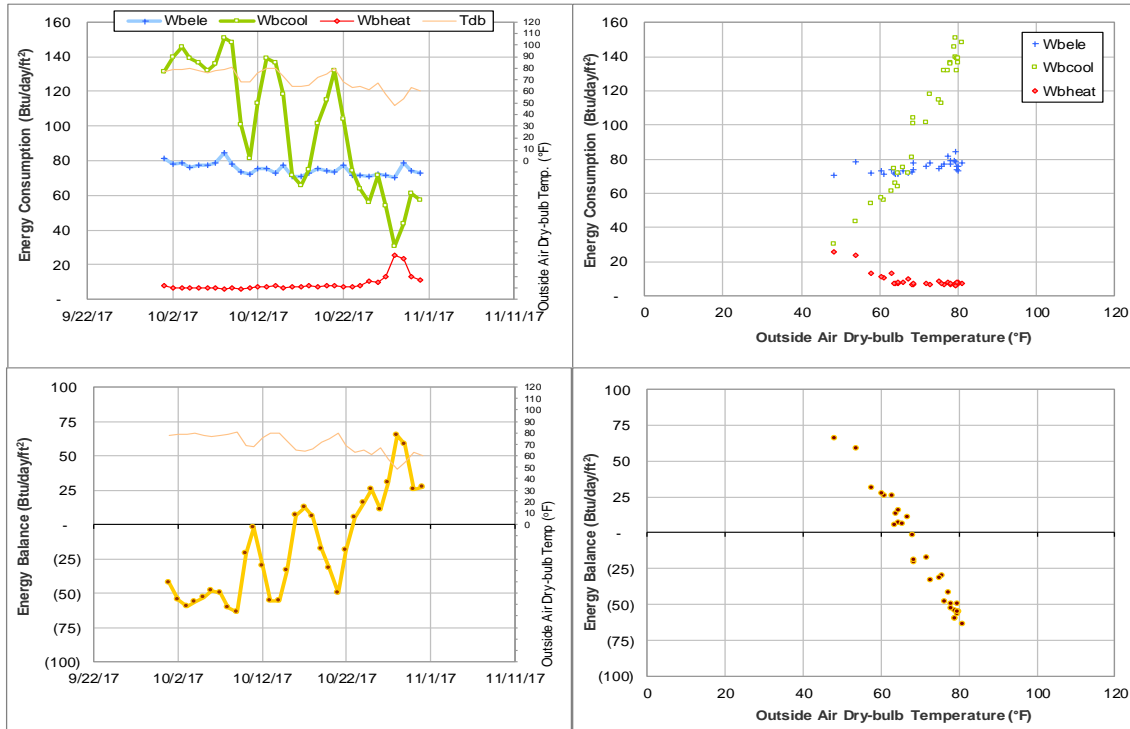


Figure IV-187 White Creek Apartment 3 TAMU BLDG # 1592 Energy Balance Plot during October 2017

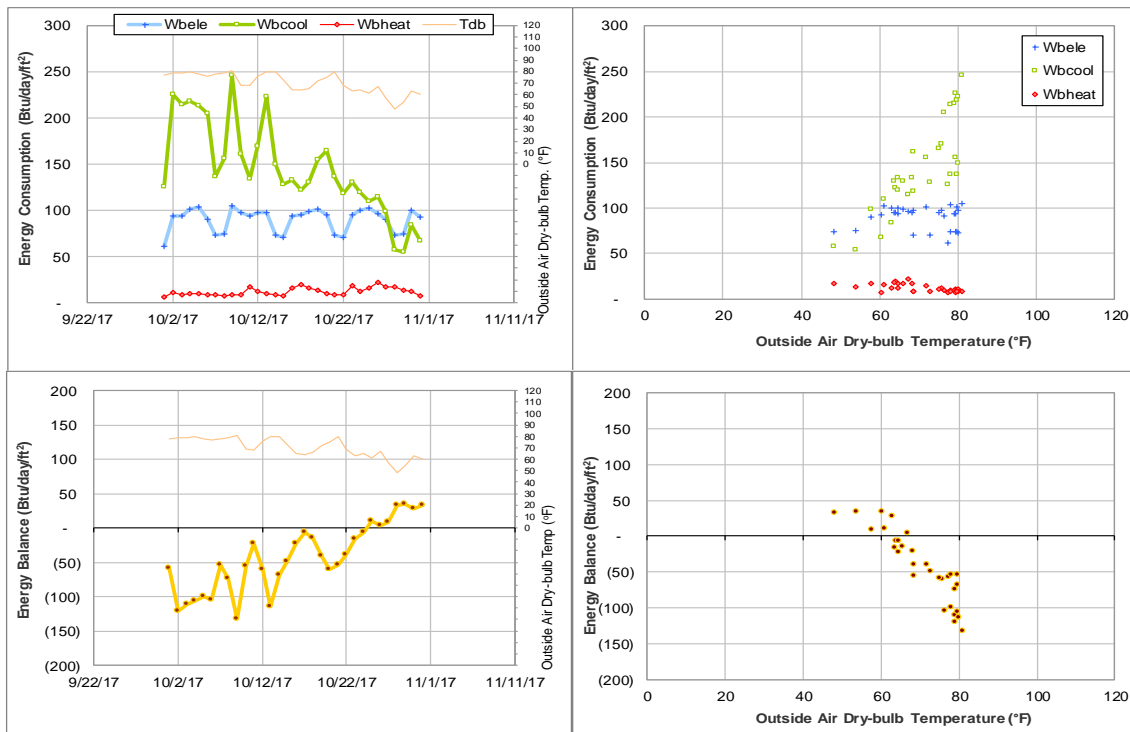


Figure IV-188 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during October 2017

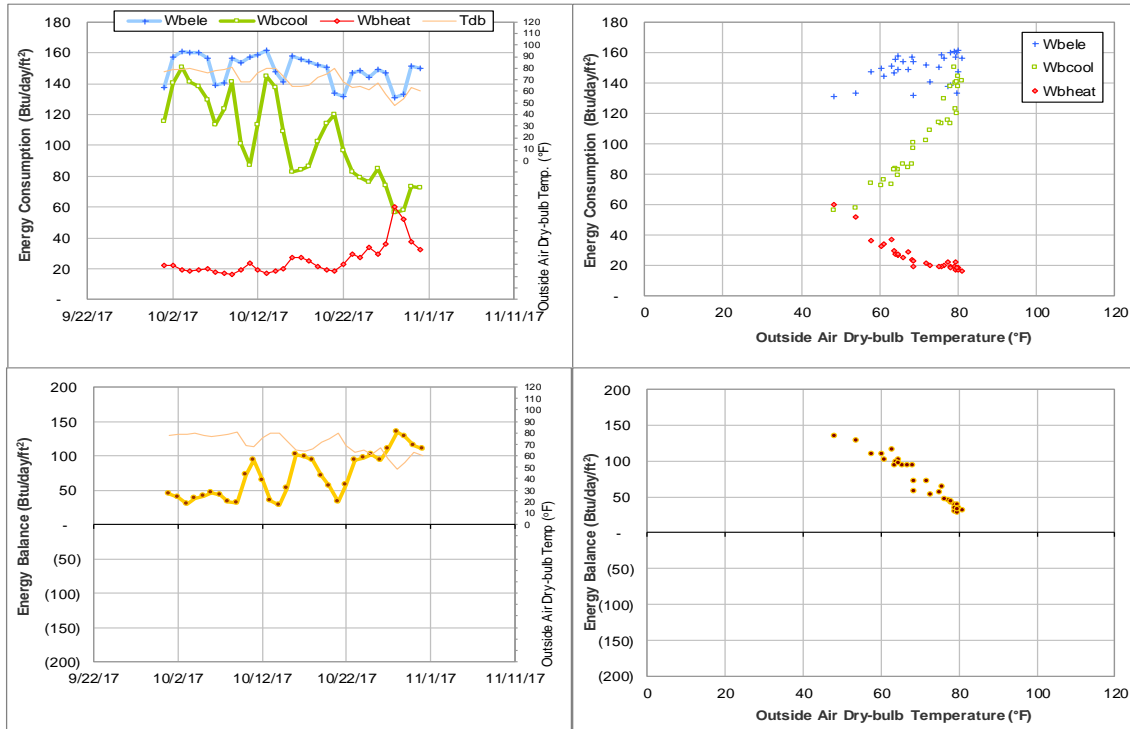


Figure IV-189 International Ocean Discovery Building TAMU BLDG # 1601 Energy Balance Plot during October 2017

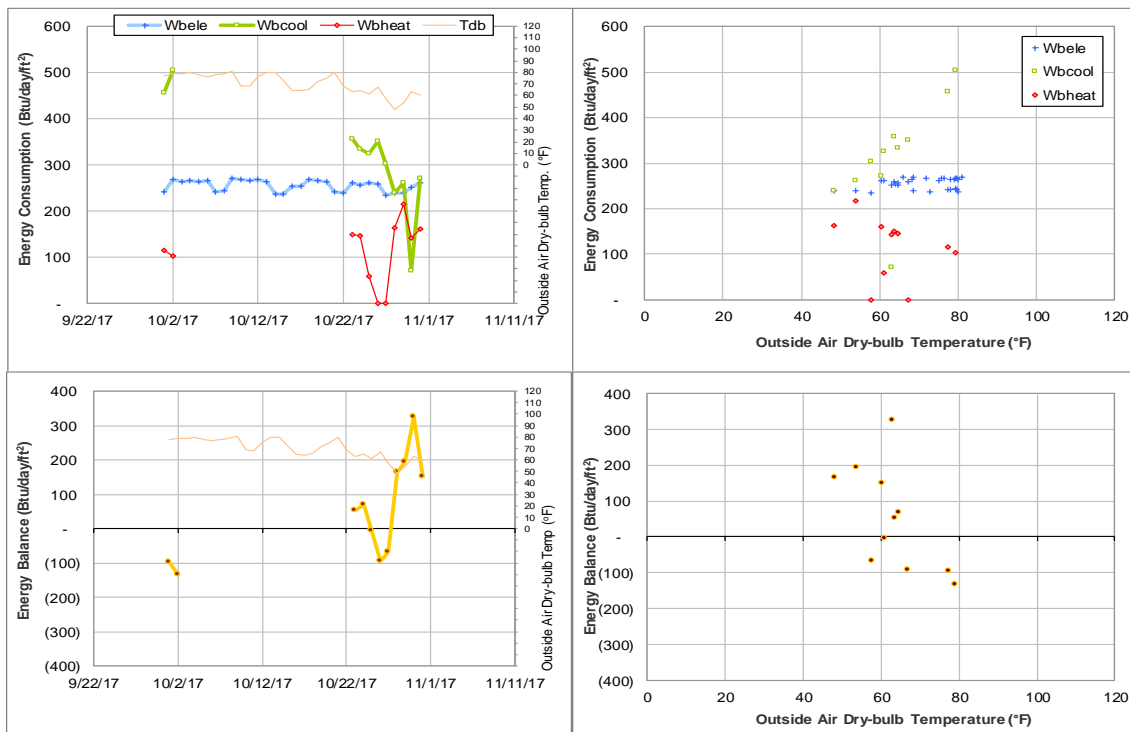


Figure IV-190 Offshore Technology Research Center TAMU BLDG # 1604 Energy Balance Plot during October 2017

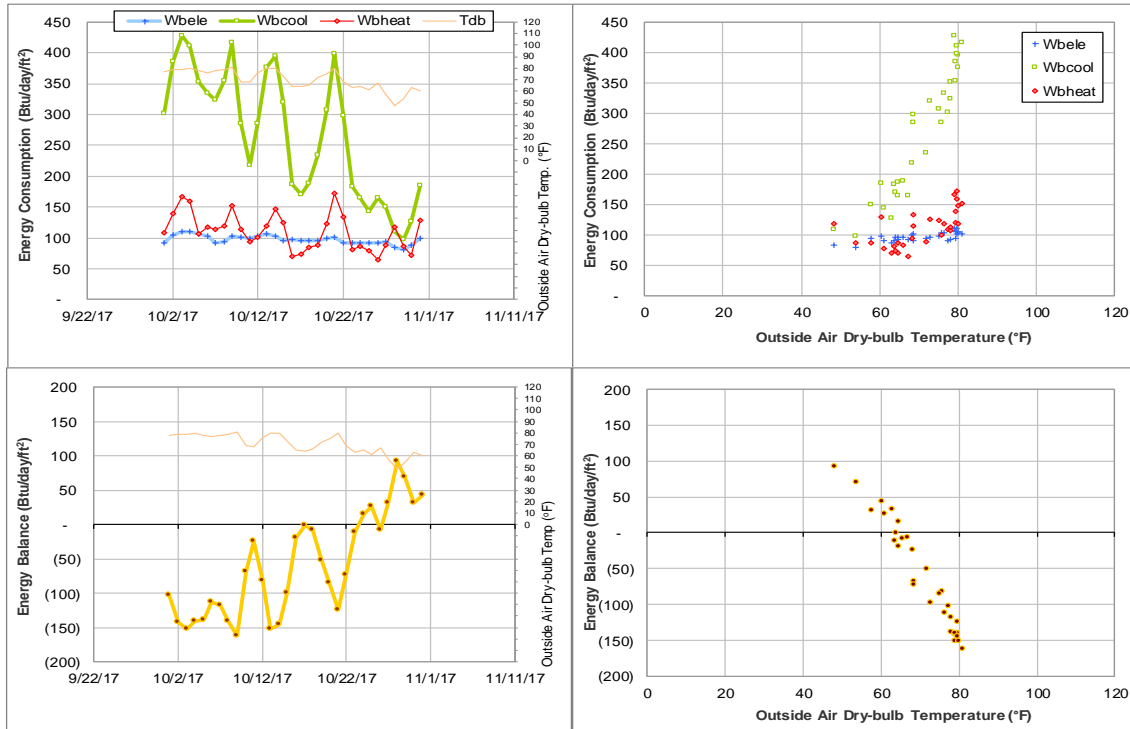


Figure IV-191 George Bush Presidential Library & Museum TAMU BLDG # 1606 Energy Balance Plot during October 2017

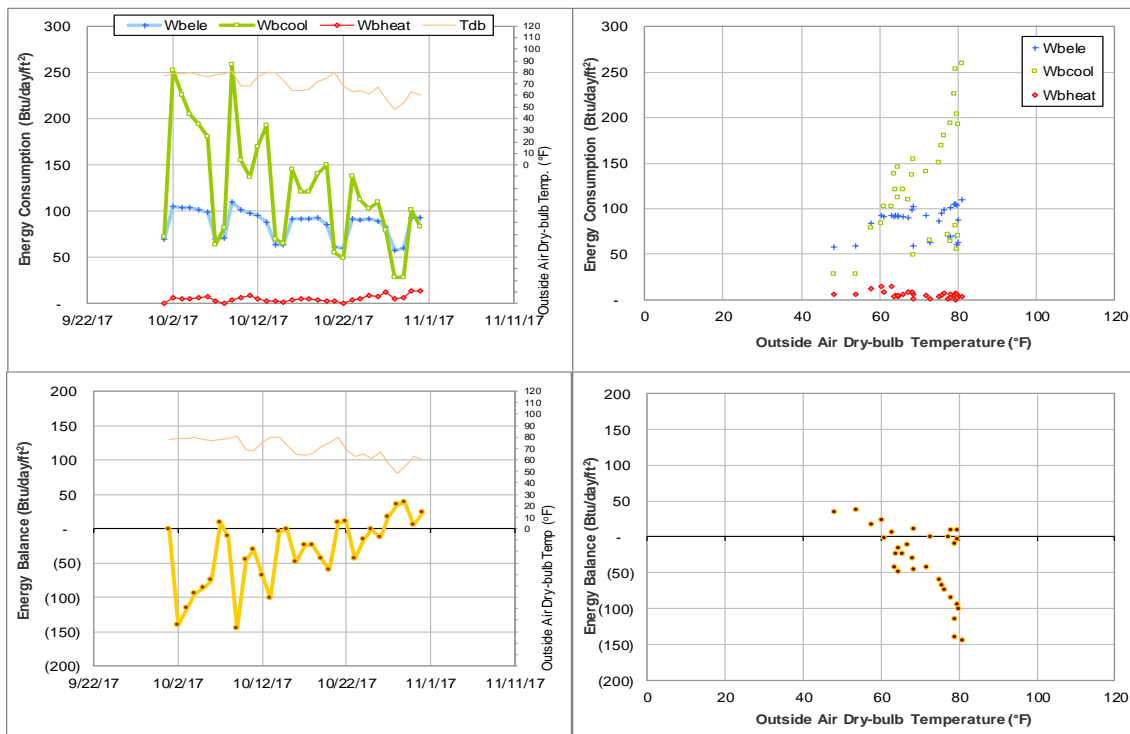


Figure IV-192 Allen Building TAMU BLDG # 1607 Energy Balance Plot during October 2017

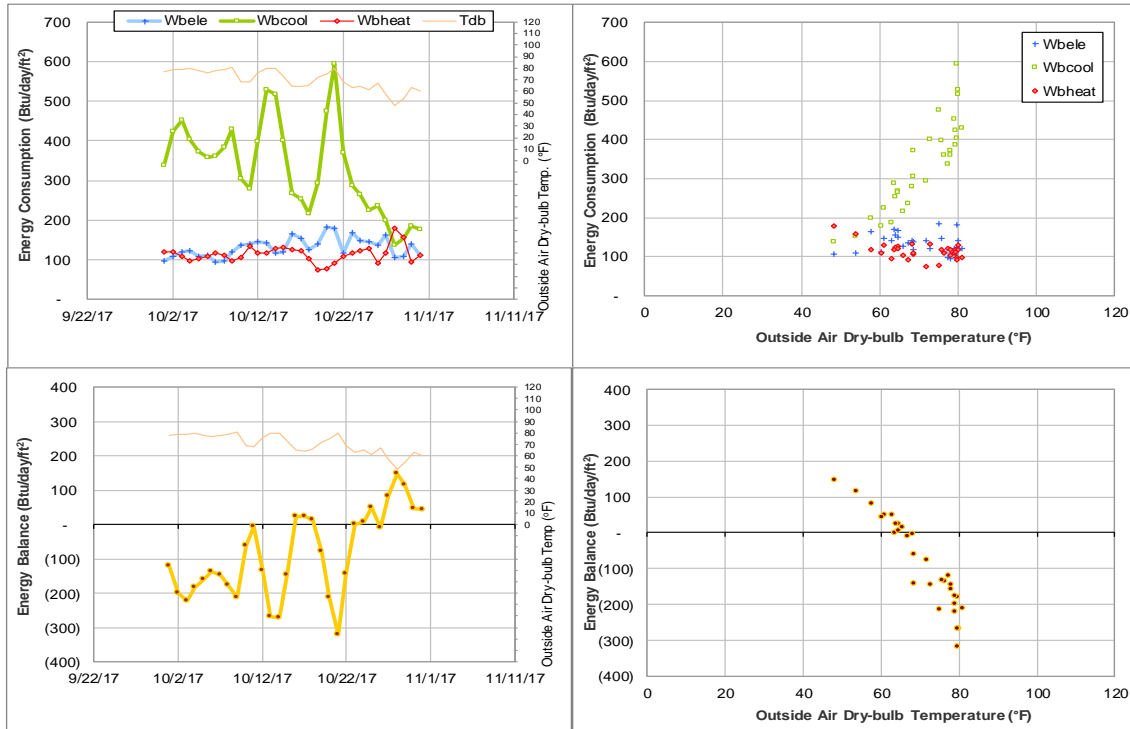


Figure IV-193 Annenberg Presidential Conference Center TAMU BLDG # 1608 Energy Balance Plot during October 2017

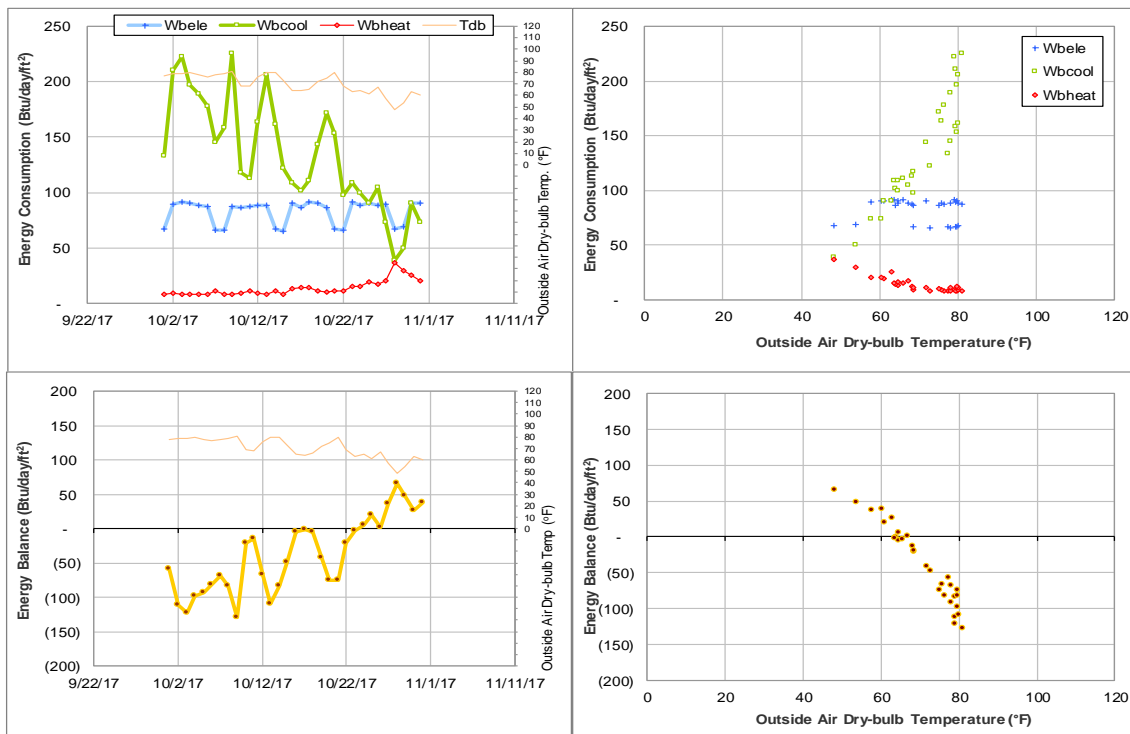


Figure IV-194 TTI Headquarters TAMU BLDG # 1609 Energy Balance Plot during October 2017

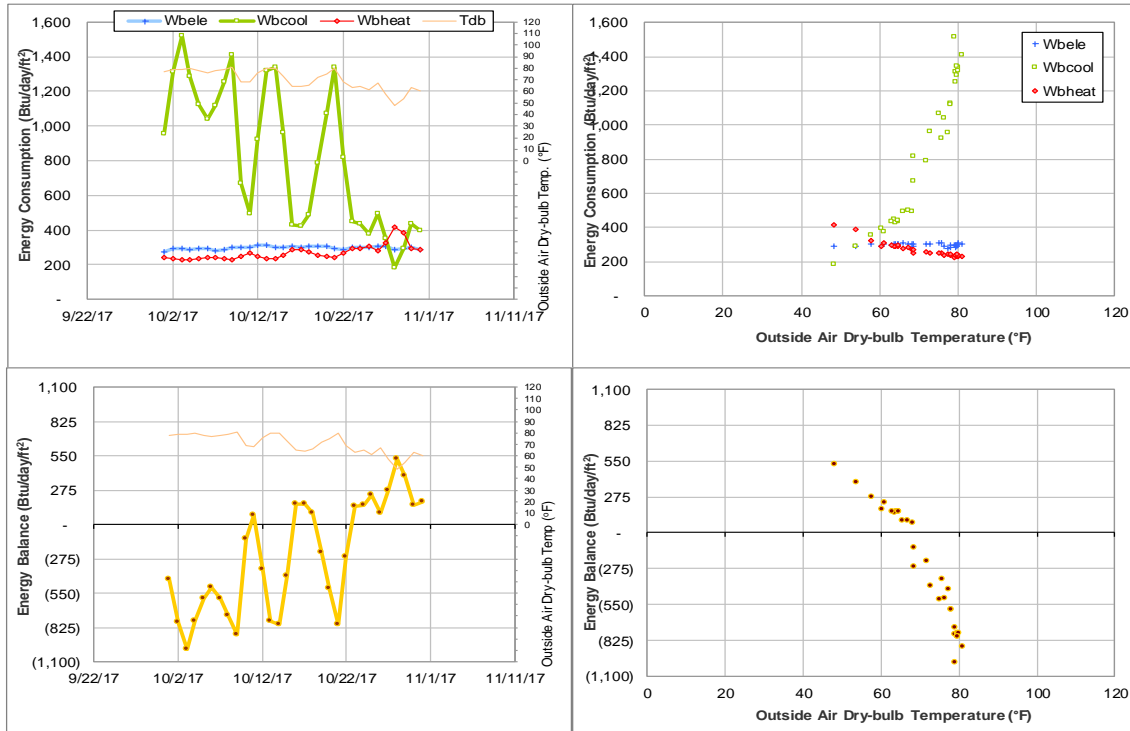


Figure IV-195 Engineering Research Building TAMU BLDG # 1611 Energy Balance Plot during October 2017

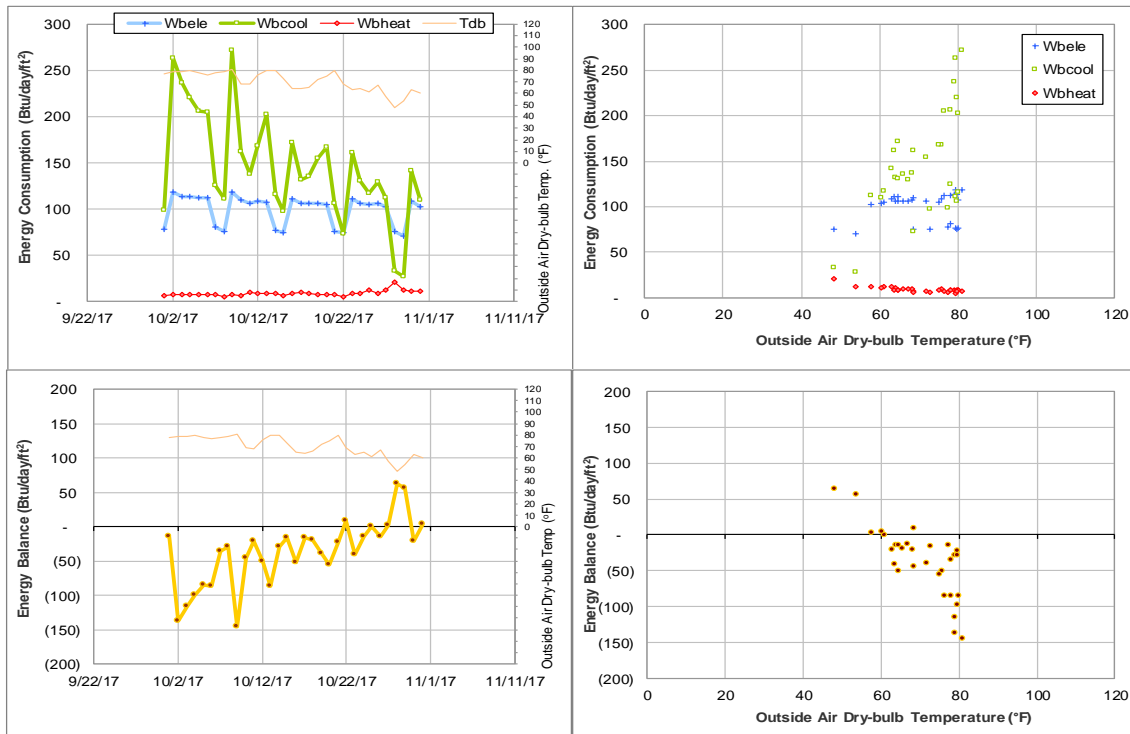


Figure IV-196 General Services Complex TAMU BLDG # 1800 Energy Balance Plot during October 2017

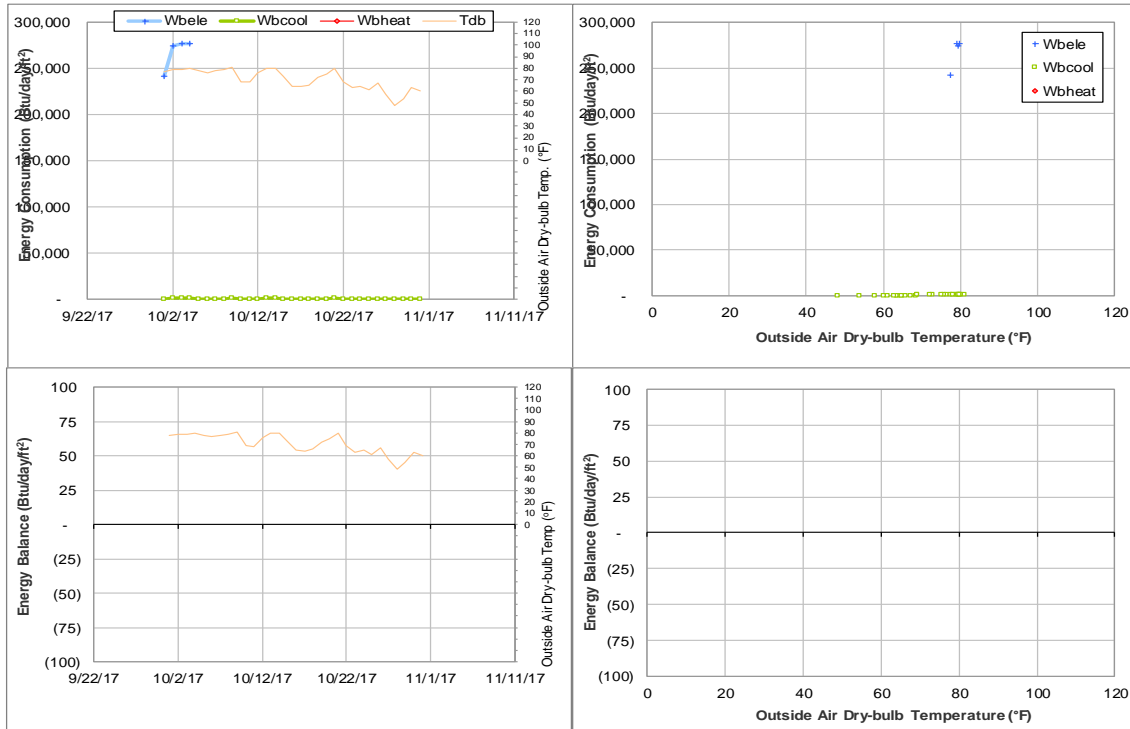


Figure IV-197 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during October 2017

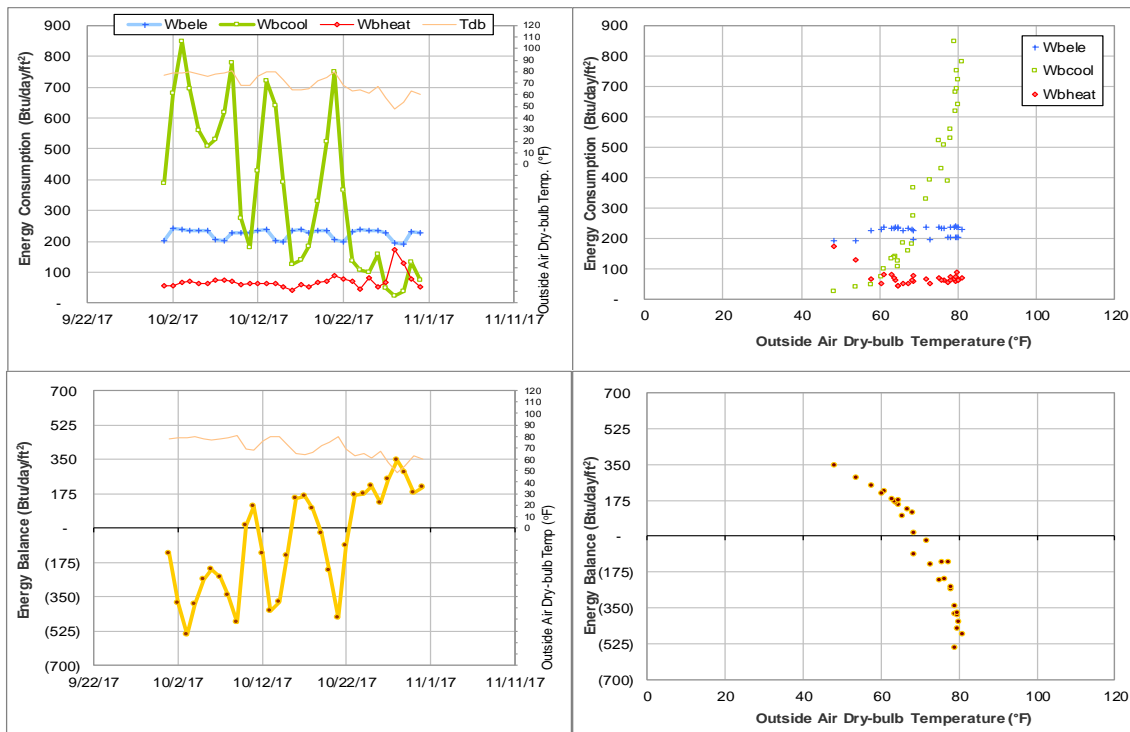


Figure IV-198 Office of the State Chemist Building TAMU BLDG # 1810 Energy Balance Plot during October 2017

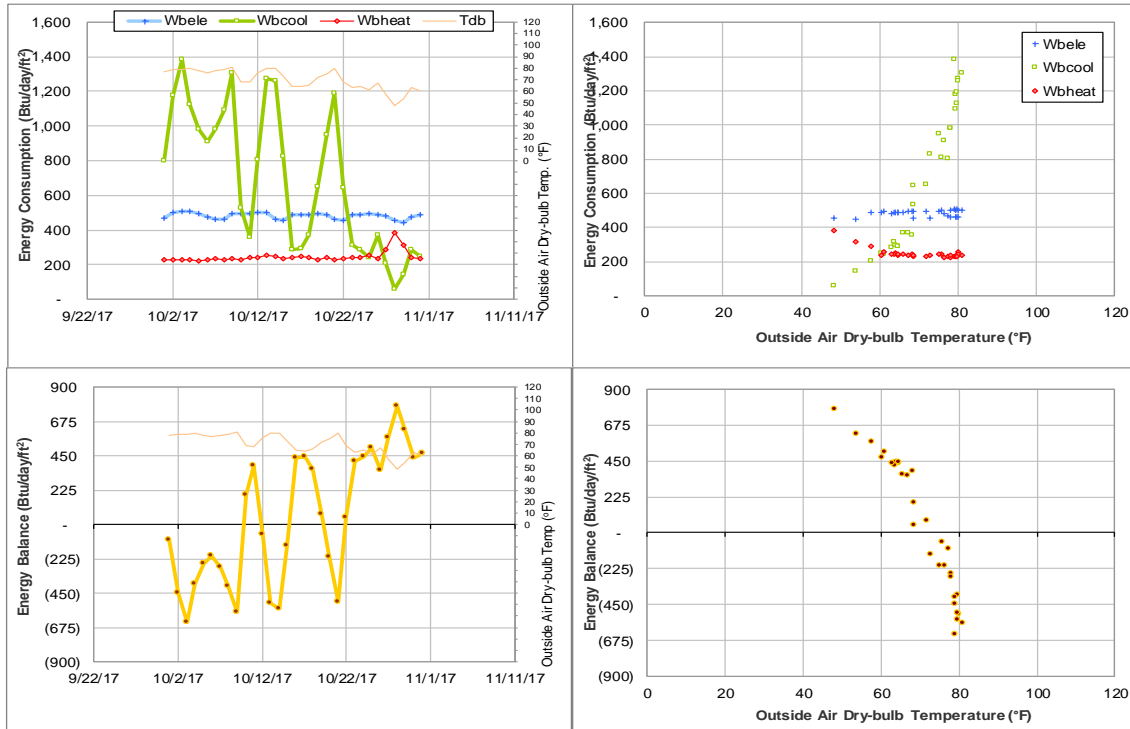


Figure IV-199 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during October 2017

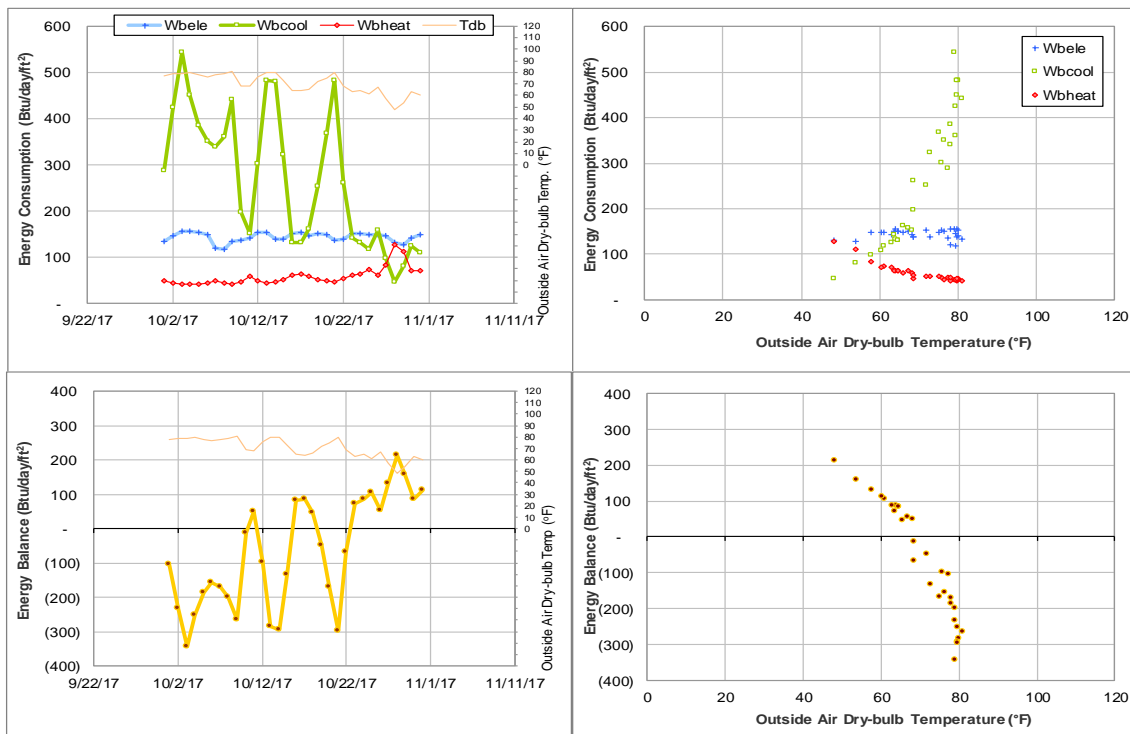


Figure IV-200 Veterinary Medicine Building 1, 2, and 3 TAMU BLDG # 1812 Energy Balance Plot during October 2017

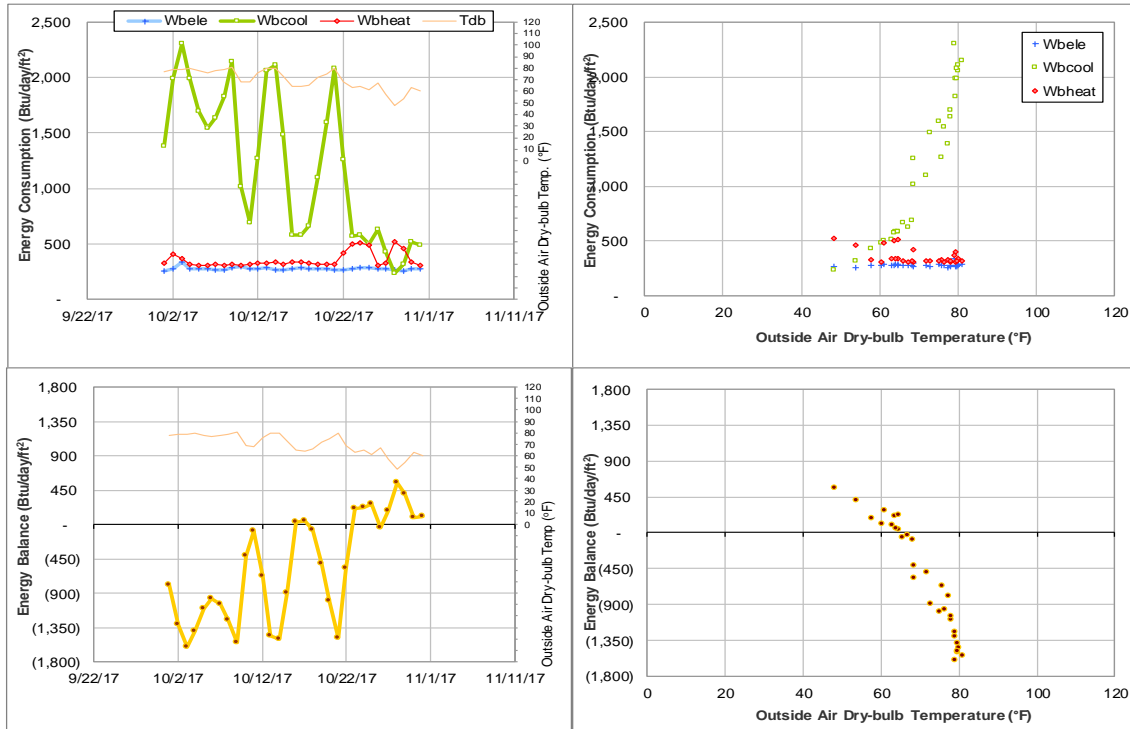


Figure IV-201 Texas Institute for Genomic Medicine TAMU BLDG # 1900 Energy Balance Plot during October 2017

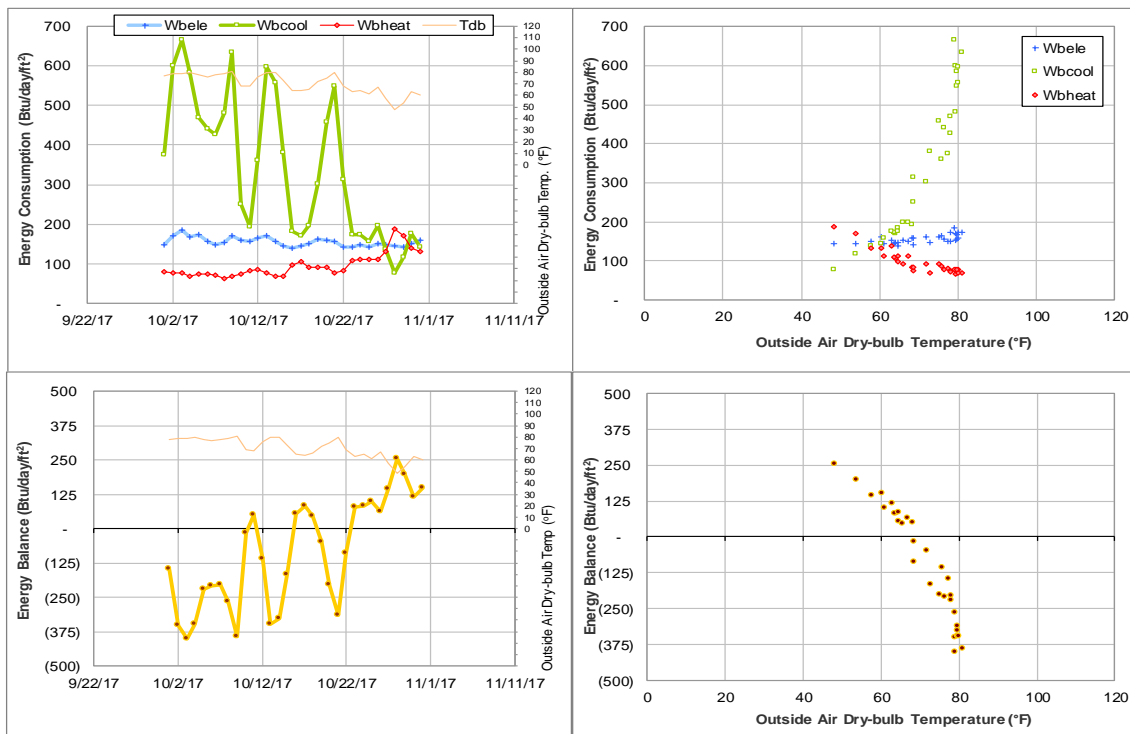


Figure IV-202 Texas A&M Institute for Preclinical Studies A TAMU BLDG # 1904 Energy Balance Plot during October 2017



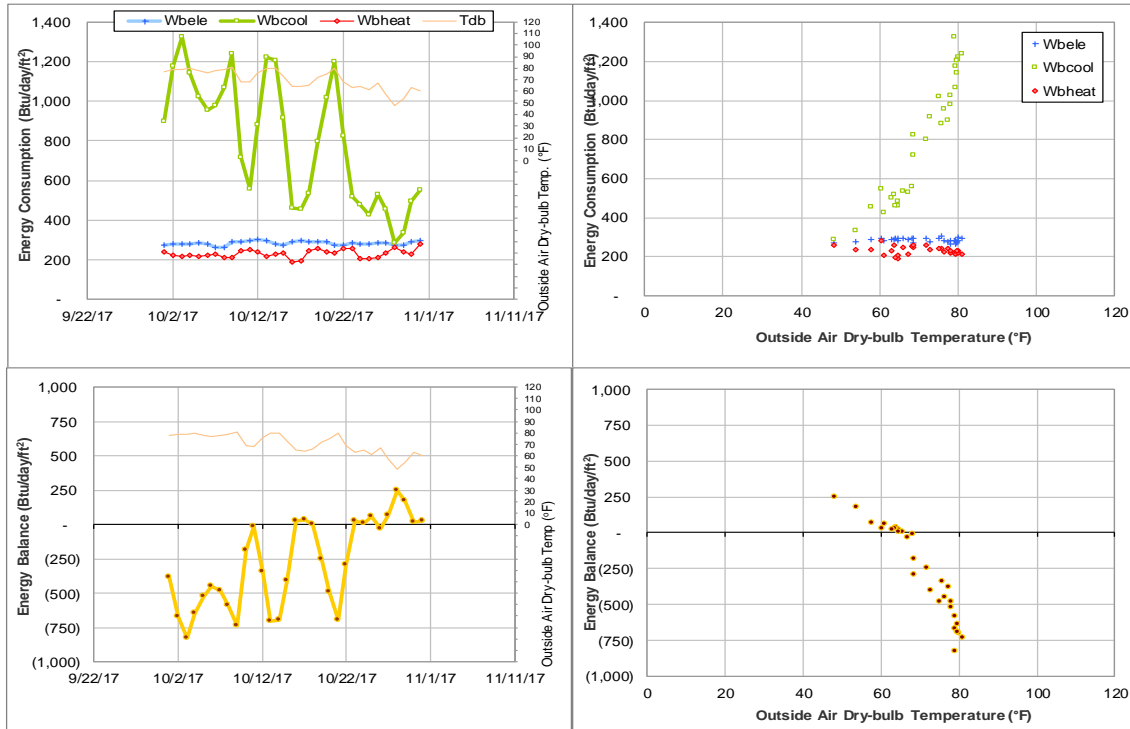


Figure IV-203 National Center for Therapeutics Manufacturing TAMU BLDG # 1910 Energy Balance Plot during October 2017

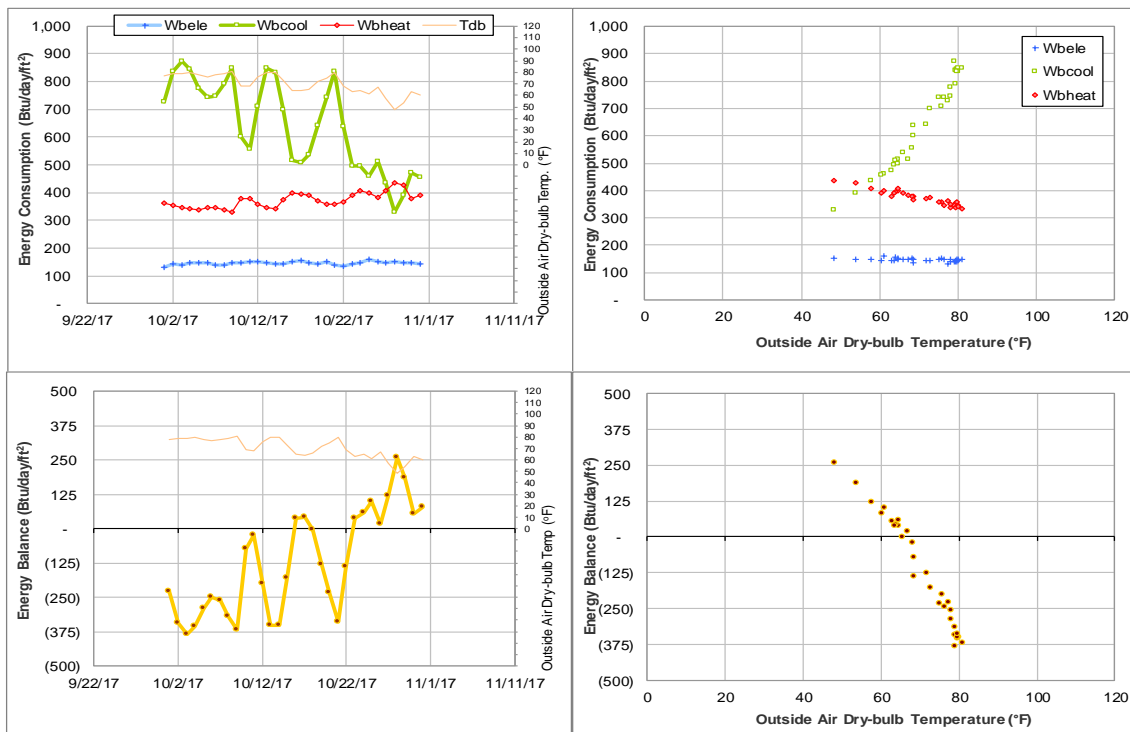


Figure IV-204 Multi-Species Research Building TAMU BLDG # 1911 Energy Balance Plot during October 2017

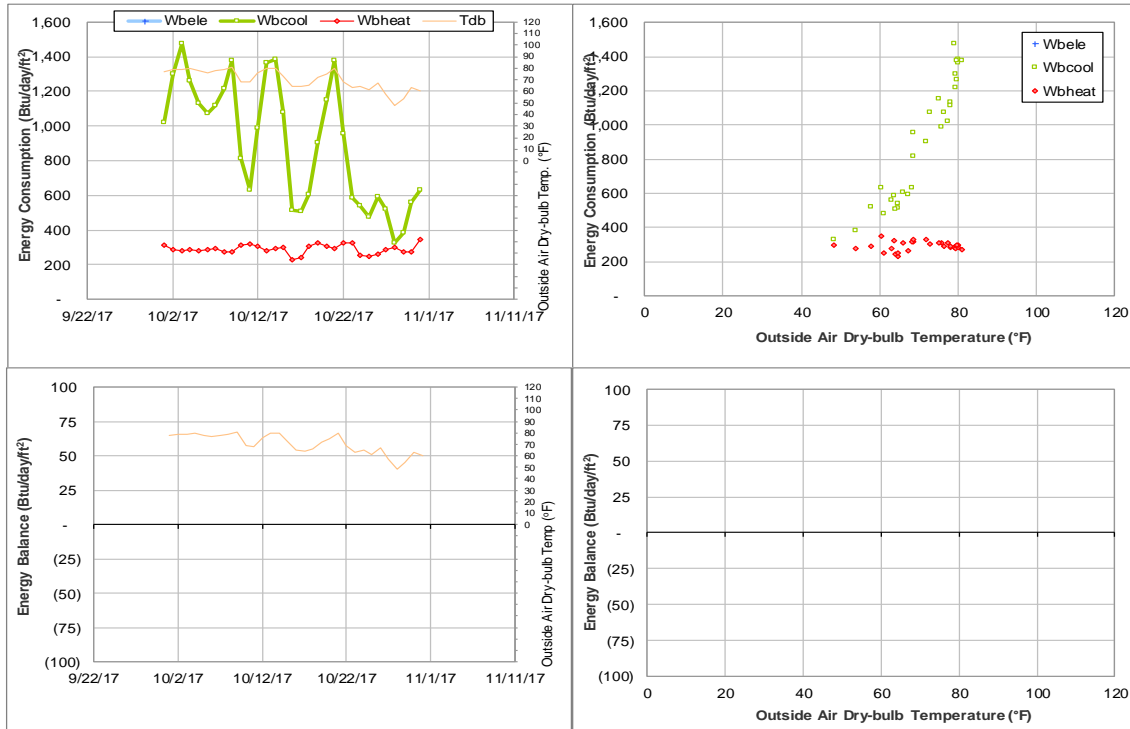


Figure IV-205 NCTM Manufacturing Building TAMU BLDG # 10226 Energy Balance Plot during October 2017

**V. Energy Balance Plots with Filled-in data for  
October 2017 Consumption**

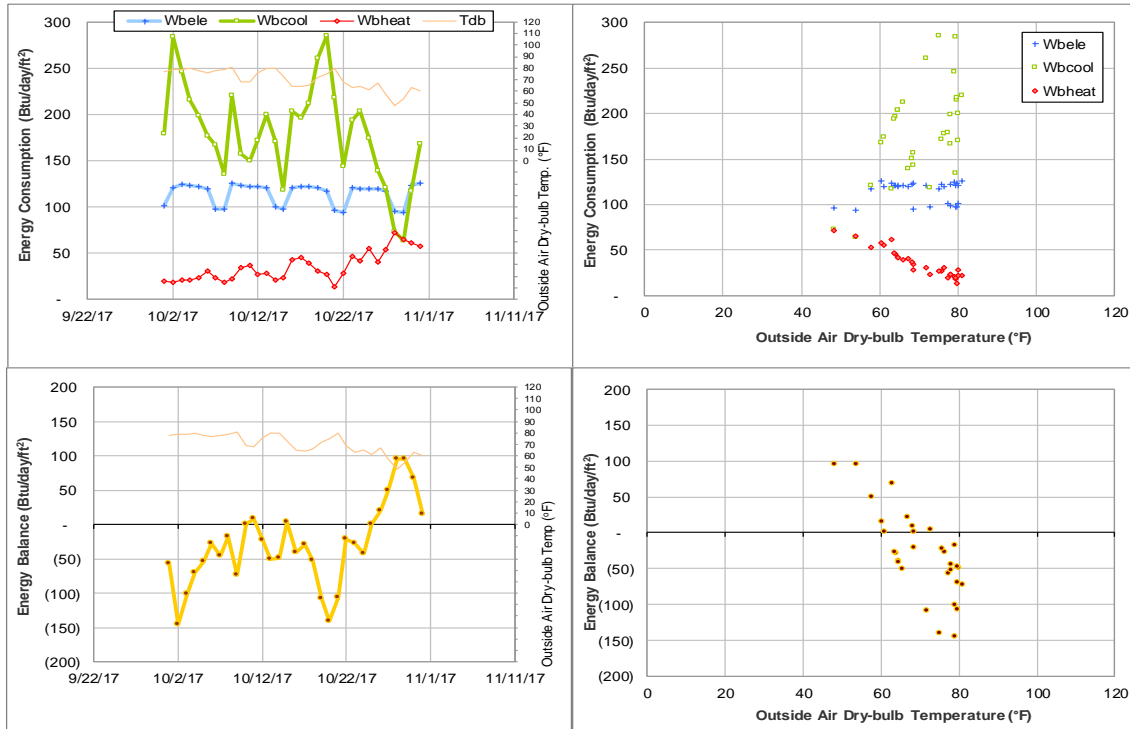


Figure V-1 CE TTI Office & Lab Building TAMU BLDG # 325 Energy Balance Plot during October 2017

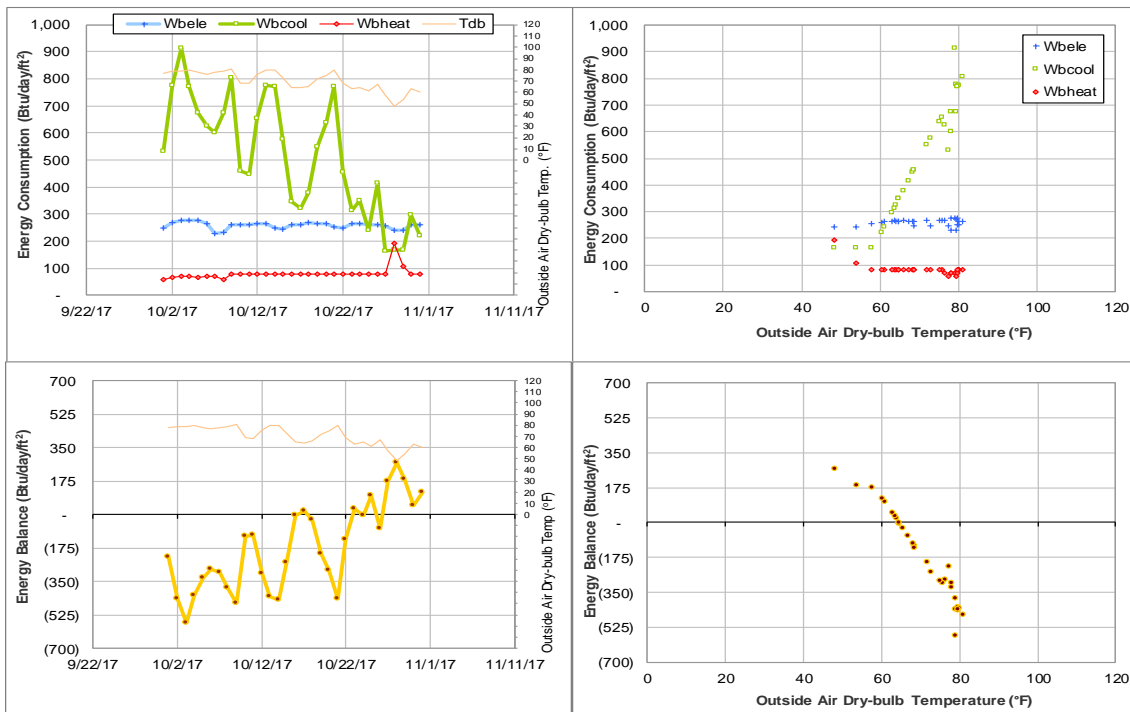


Figure V-2 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during October 2017

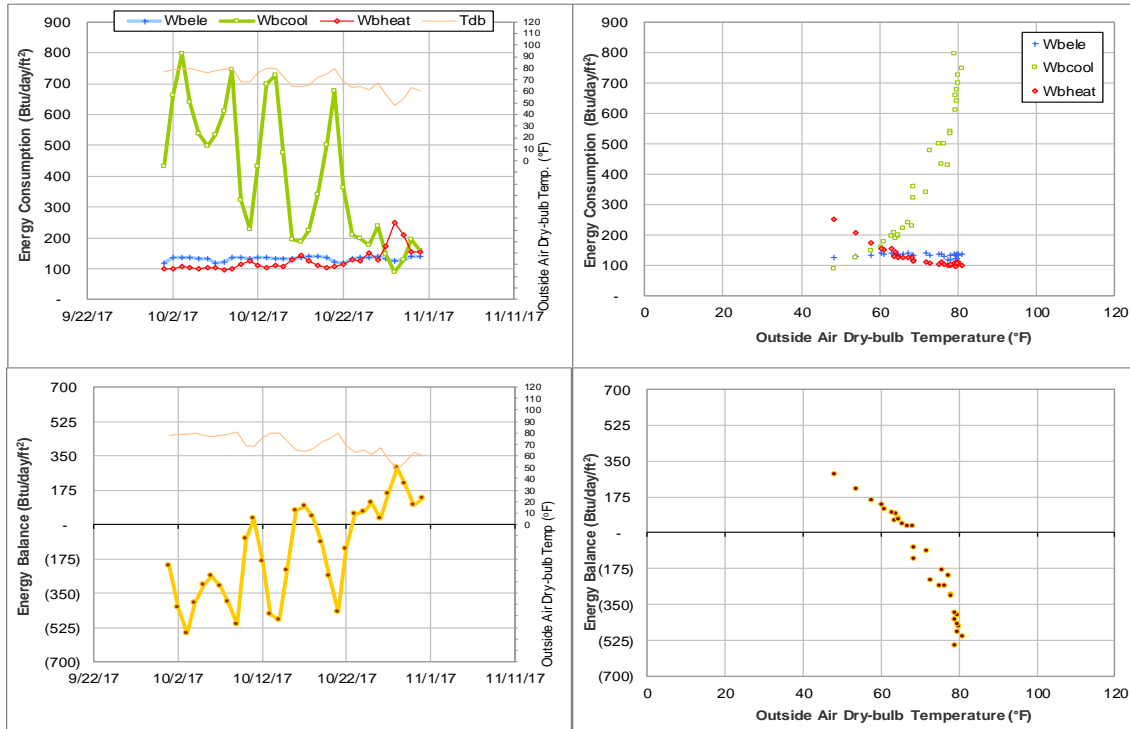


Figure V-3 Reed-McDonald and Engineering Innovation Center TAMU BLDG # 436 Energy Balance Plot during October 2017

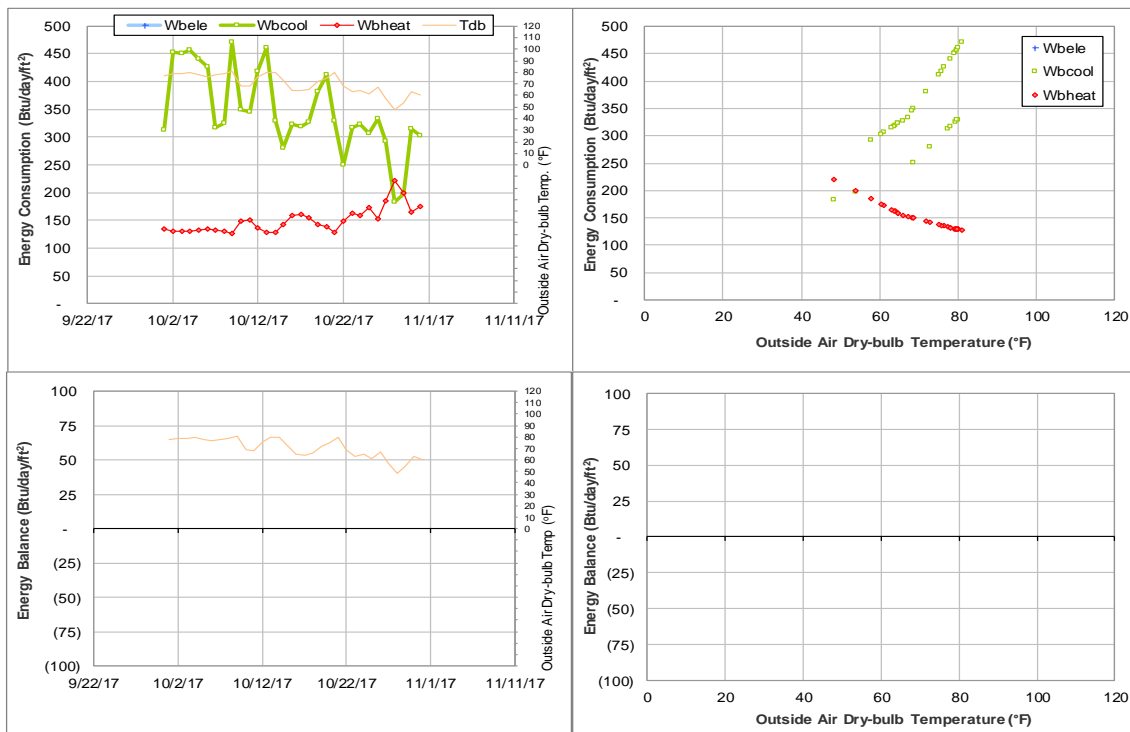


Figure V-4 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during October 2017

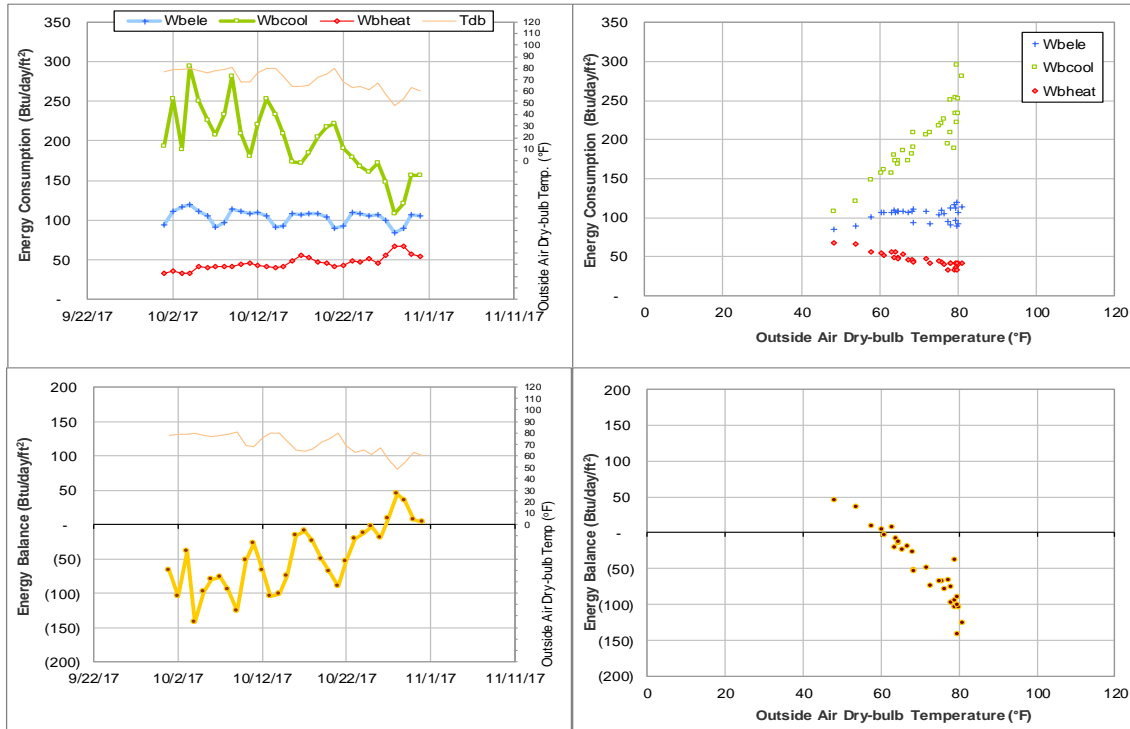


Figure V-5 Evans Library TAMU BLDG # 468 Energy Balance Plot during October 2017

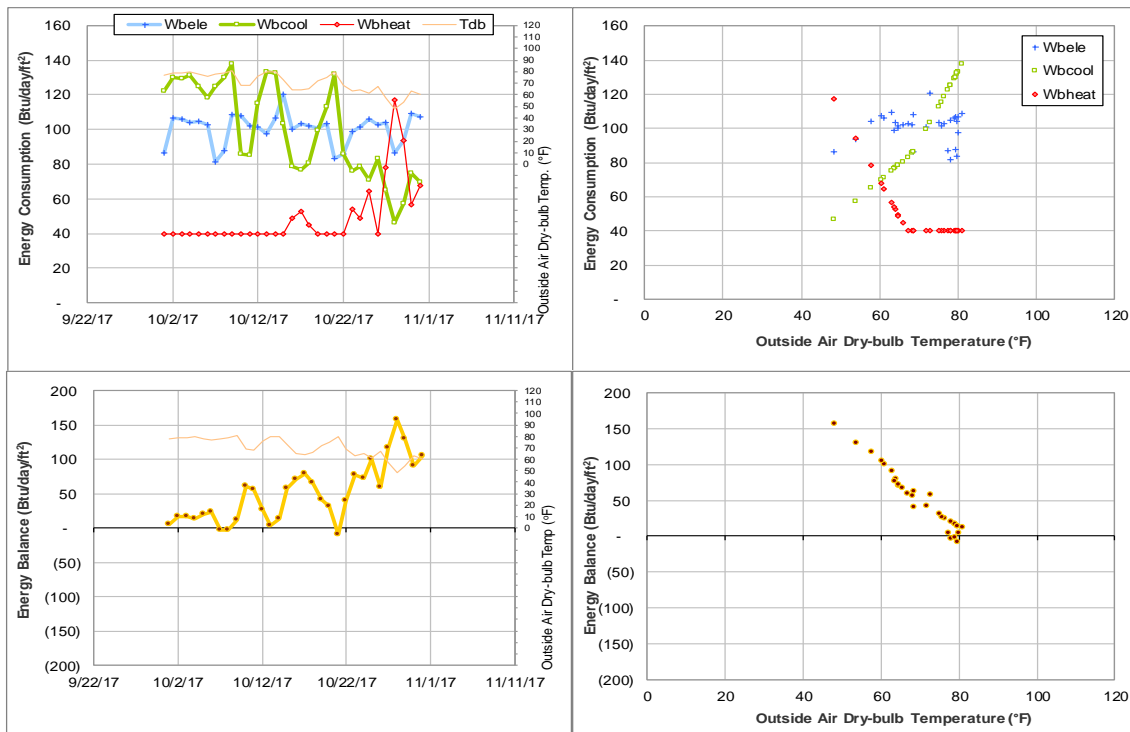


Figure V-6 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during October 2017

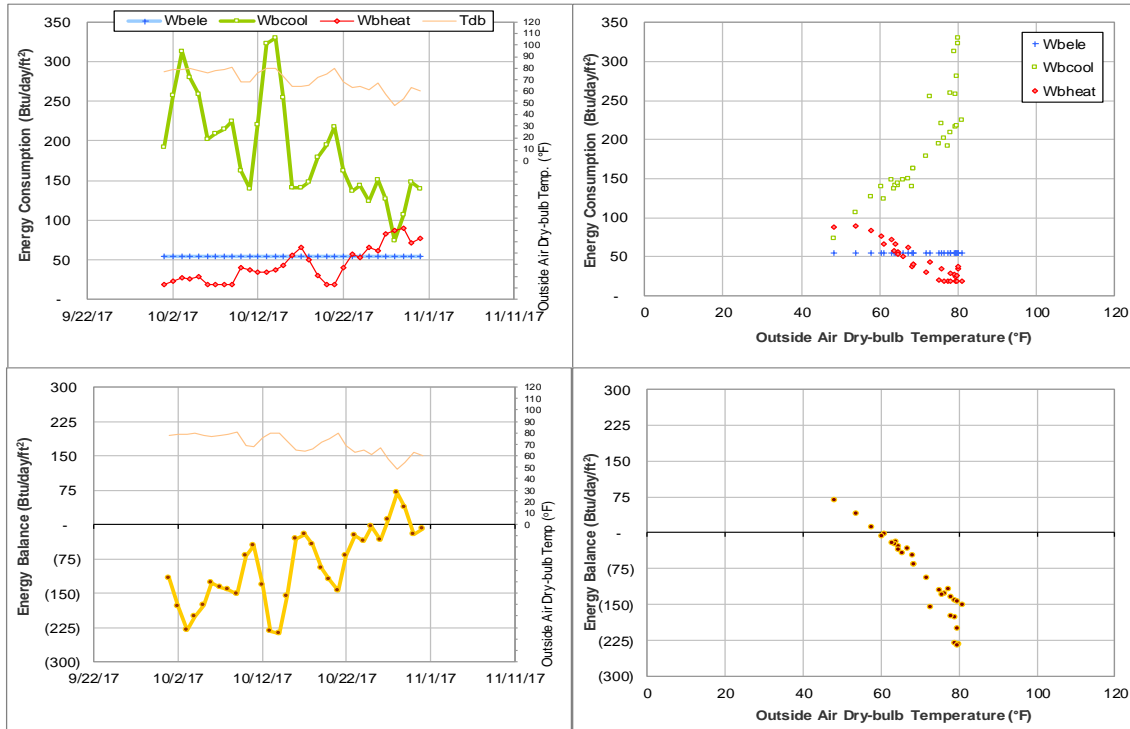


Figure V-7 Zachry Engineering Education Complex TAMU BLDG # 518 Energy Balance Plot during October 2017

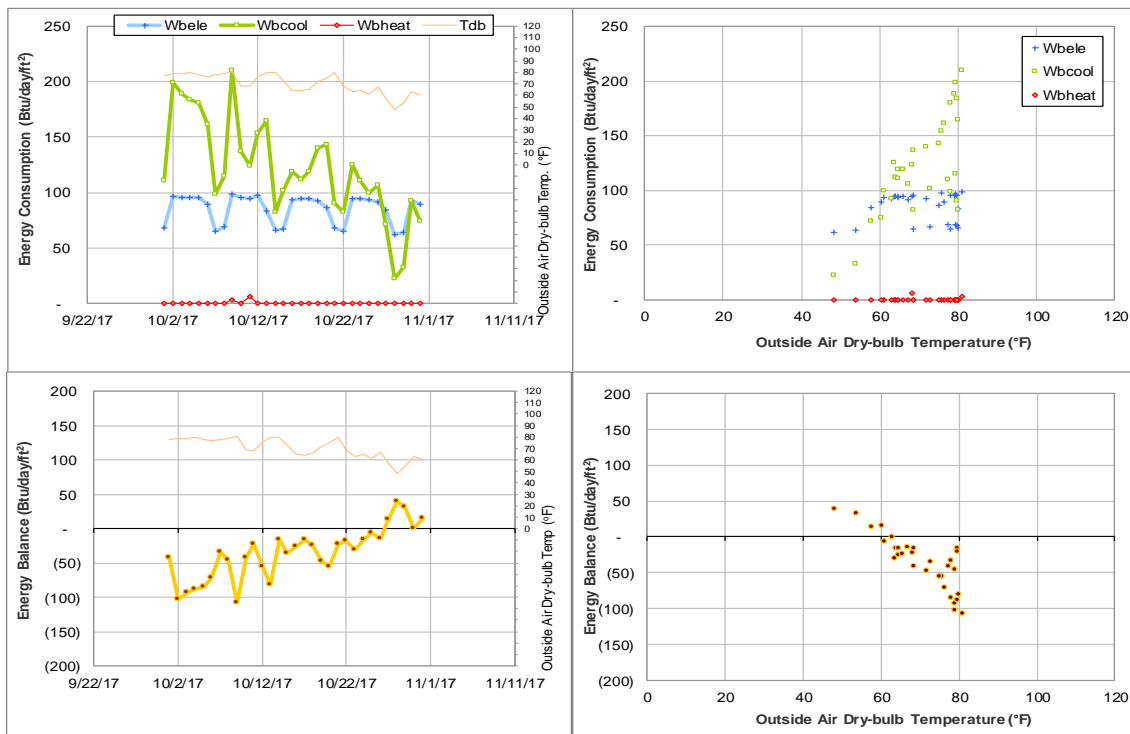


Figure V-8 Blocker building TAMU BLDG # 524 Energy Balance Plot during October 2017

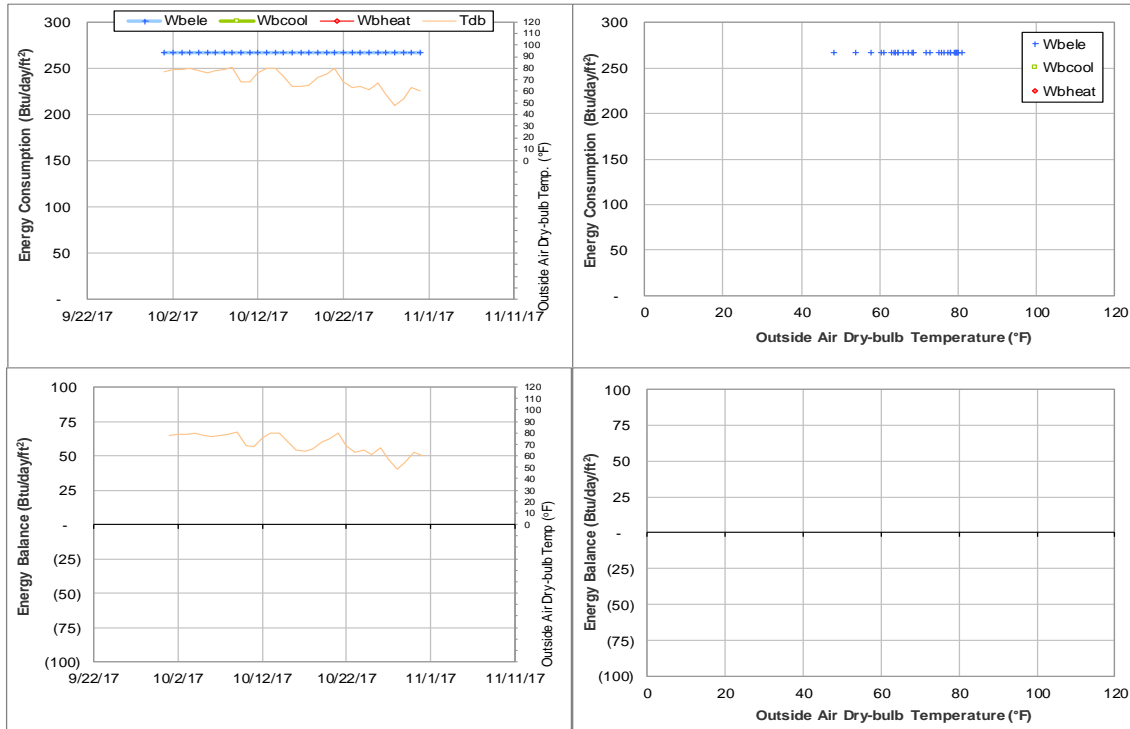


Figure V-9 Dollar Data Center TAMU BLDG # 971 Energy Balance Plot during October 2017

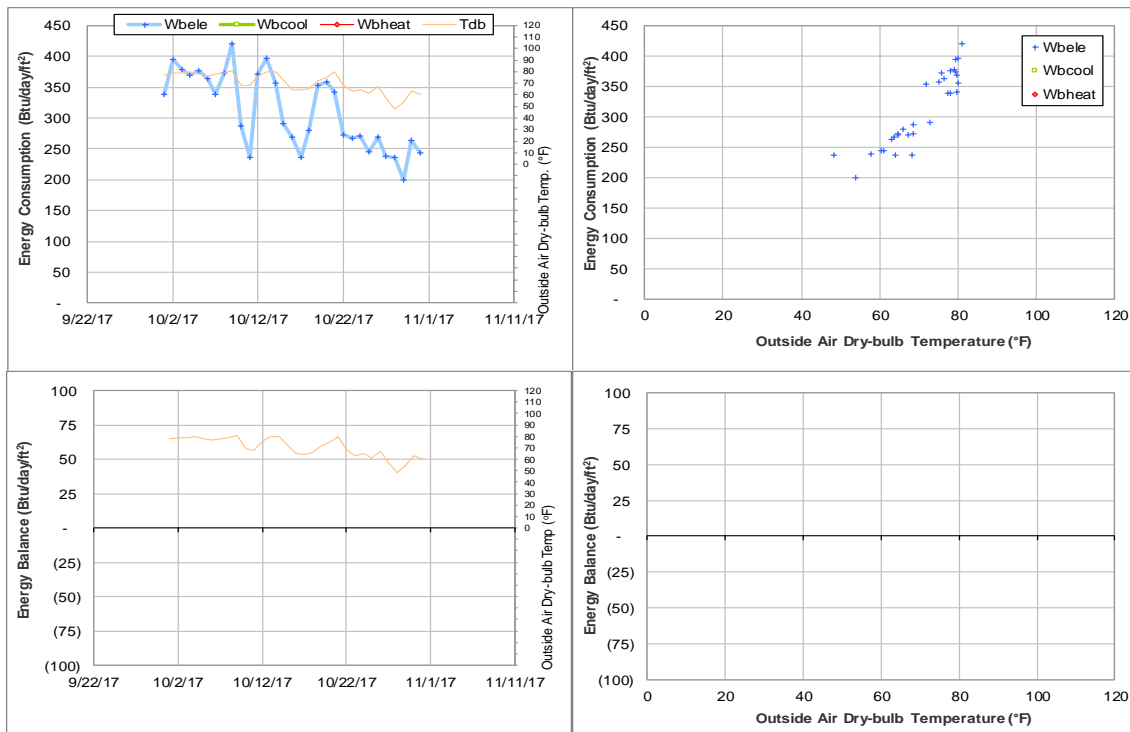


Figure V-10 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during October 2017



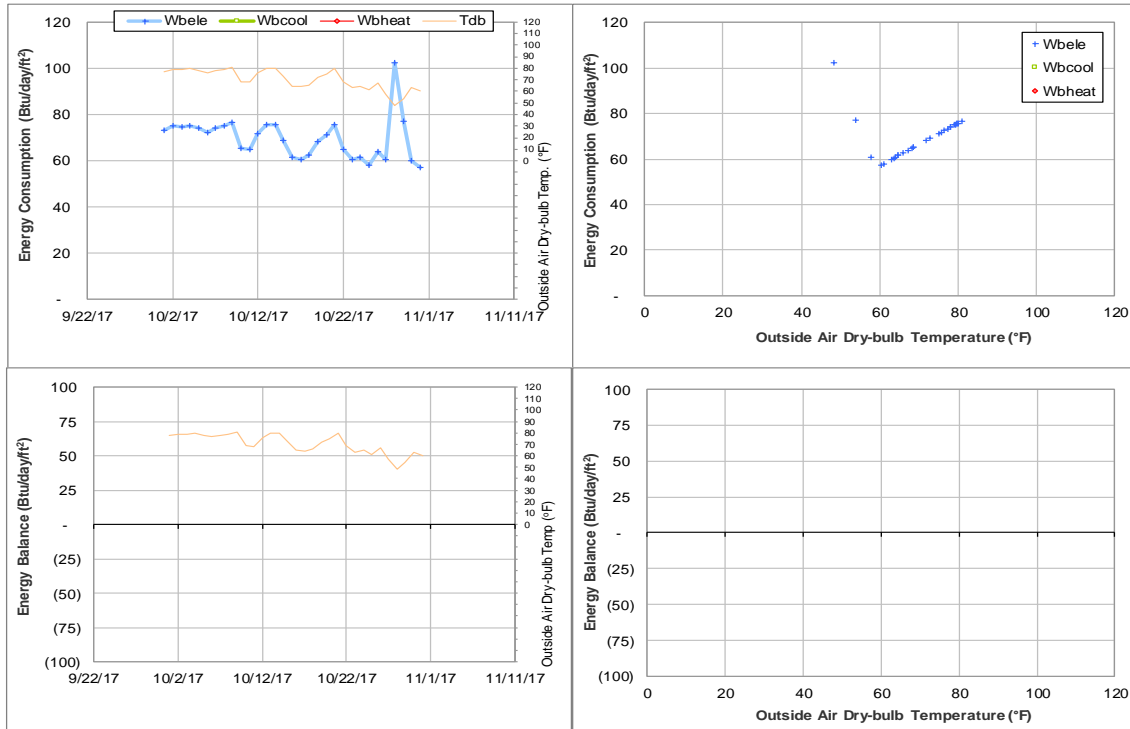


Figure V-11 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during October 2017

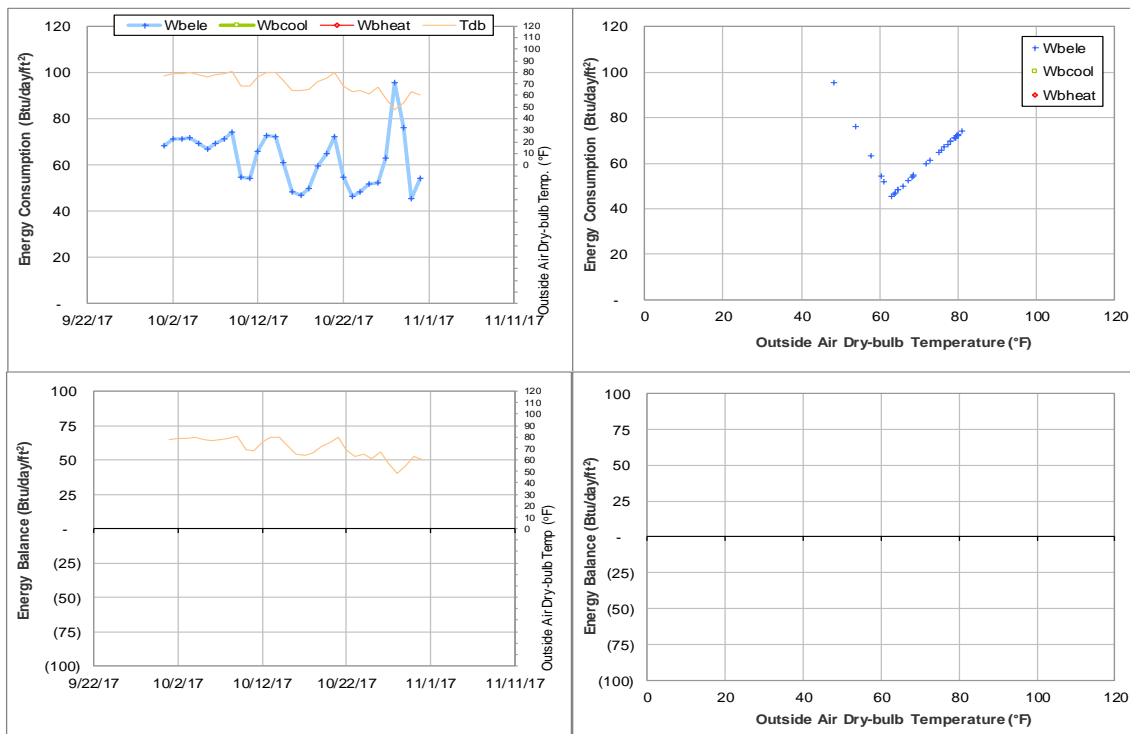


Figure V-12 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during October 2017

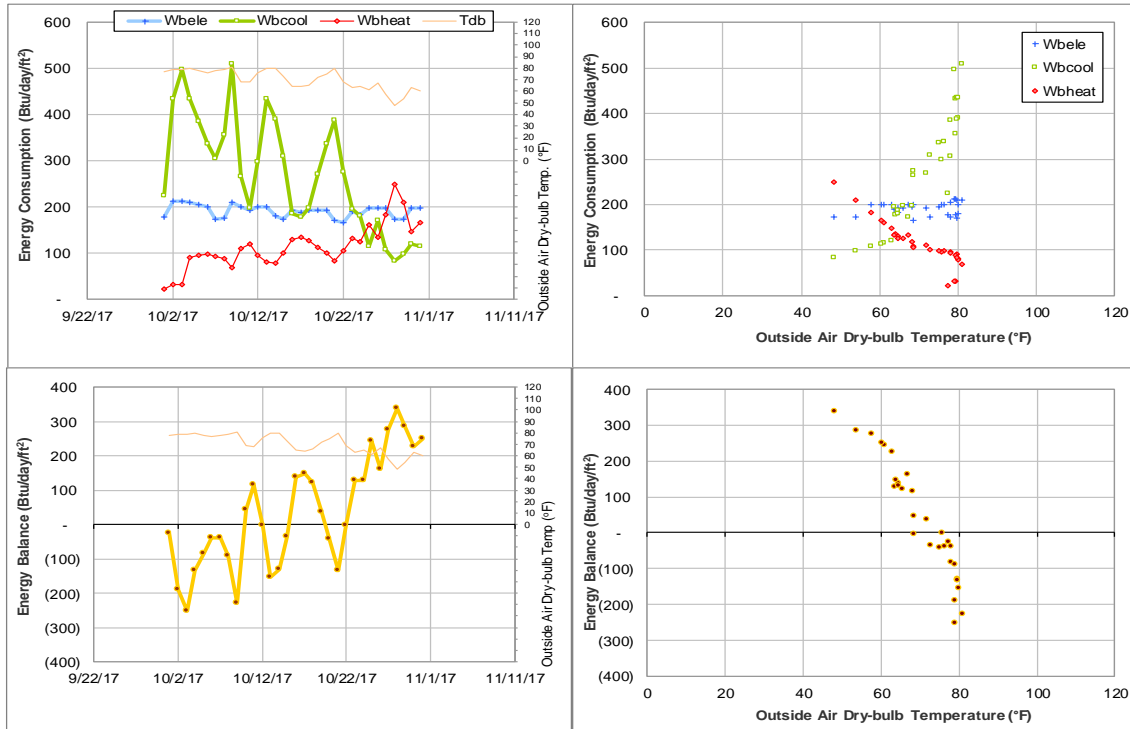


Figure V-13 Kleberg Center TAMU BLDG # 1501 Energy Balance Plot during October 2017

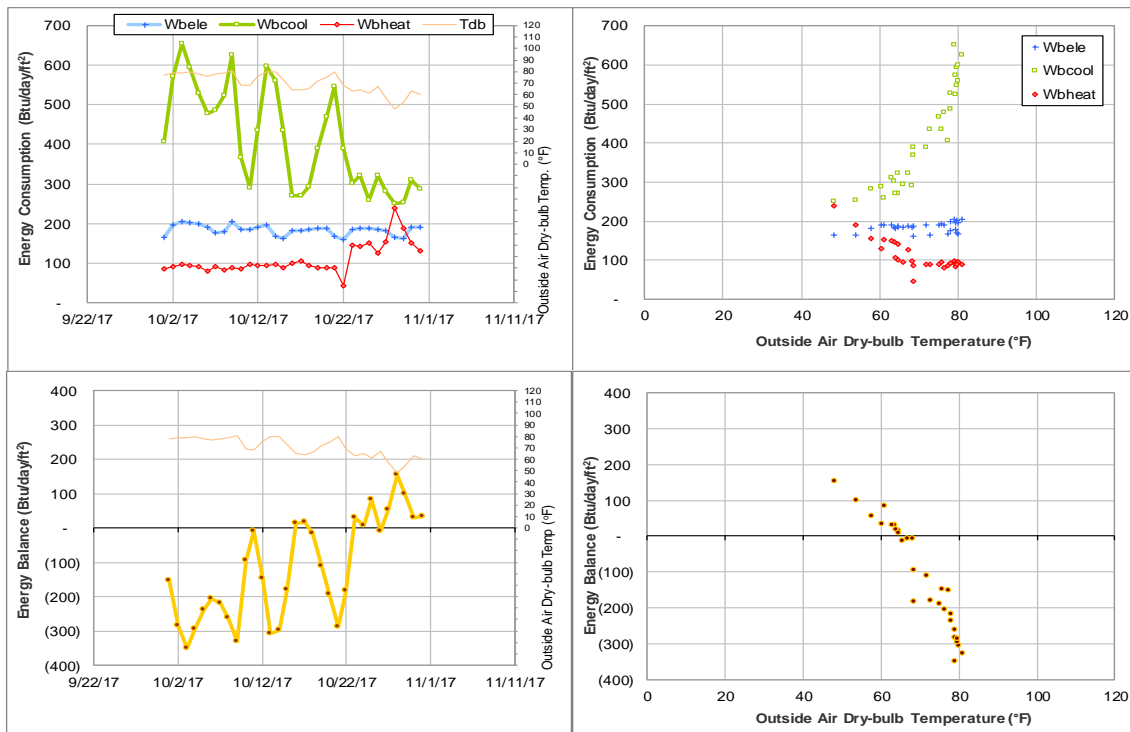


Figure V-14 Reynolds Medical Sciences Building TAMU BLDG # 1504 Energy Balance Plot during October 2017

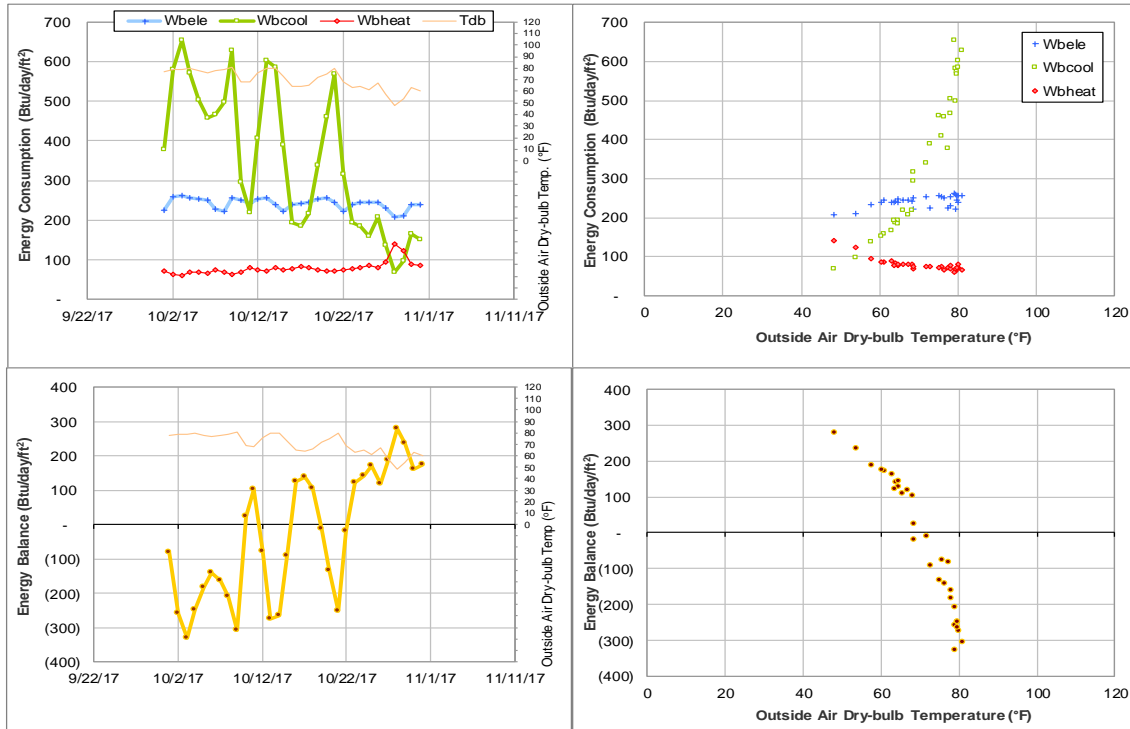


Figure V-15 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during October 2017

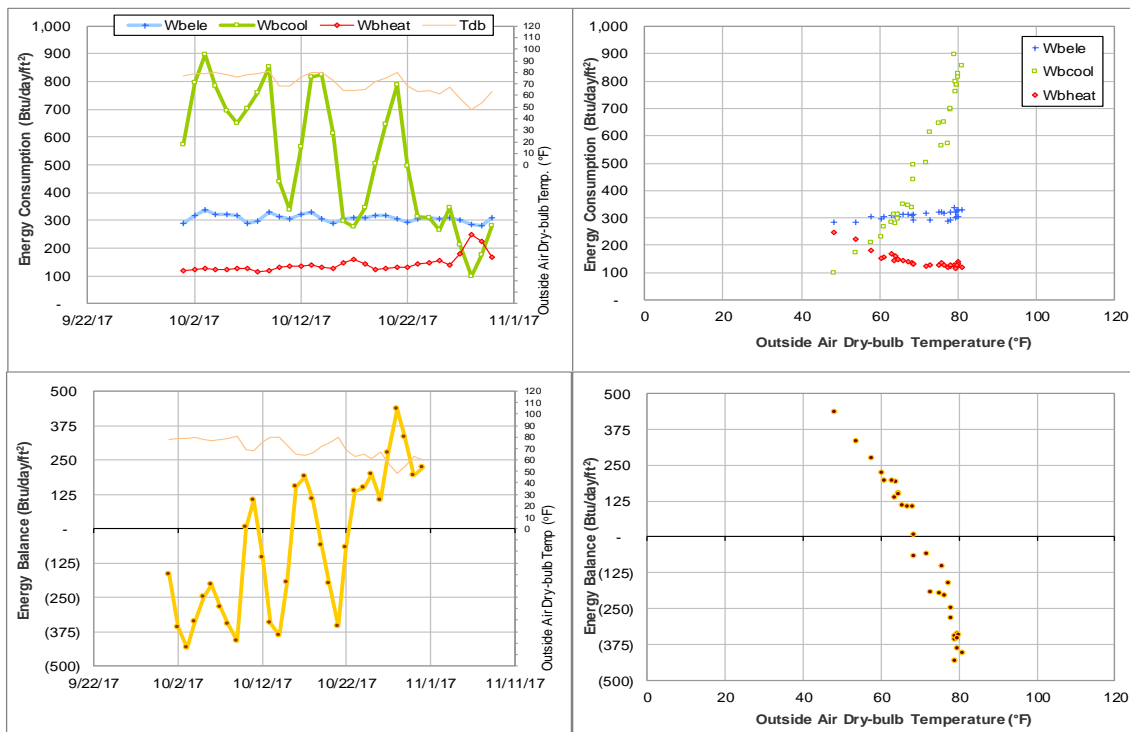


Figure V-16 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during October 2017

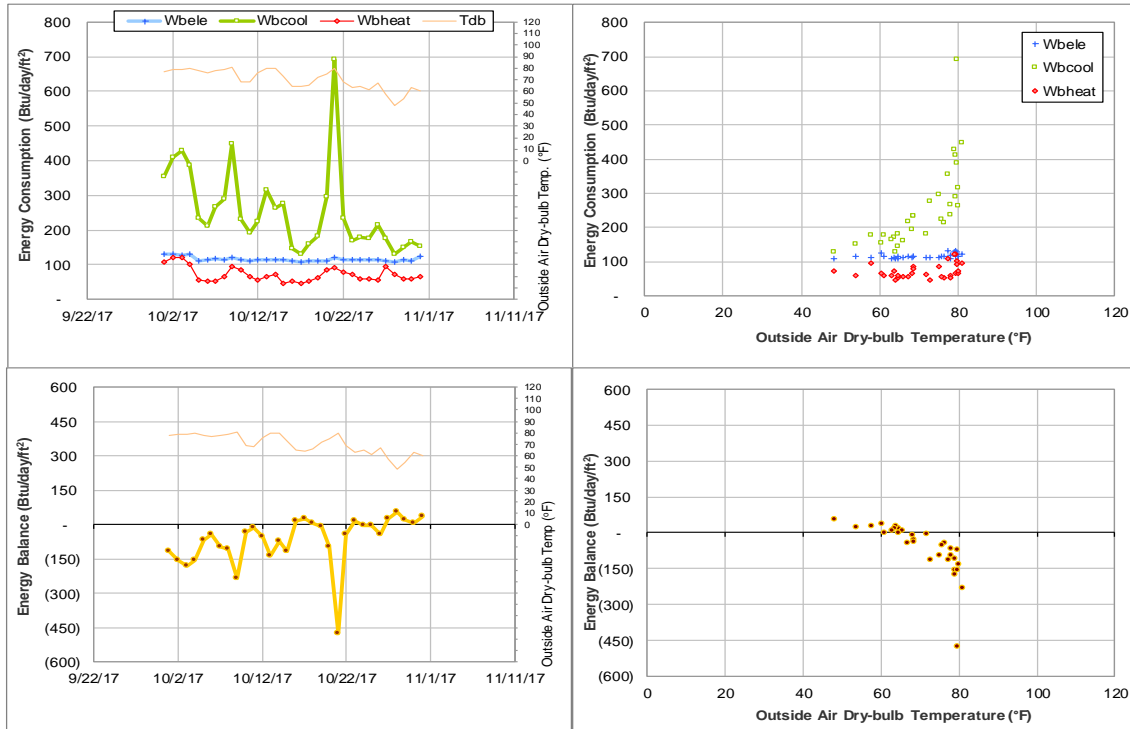


Figure V-17 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 Energy Balance Plot during October 2017

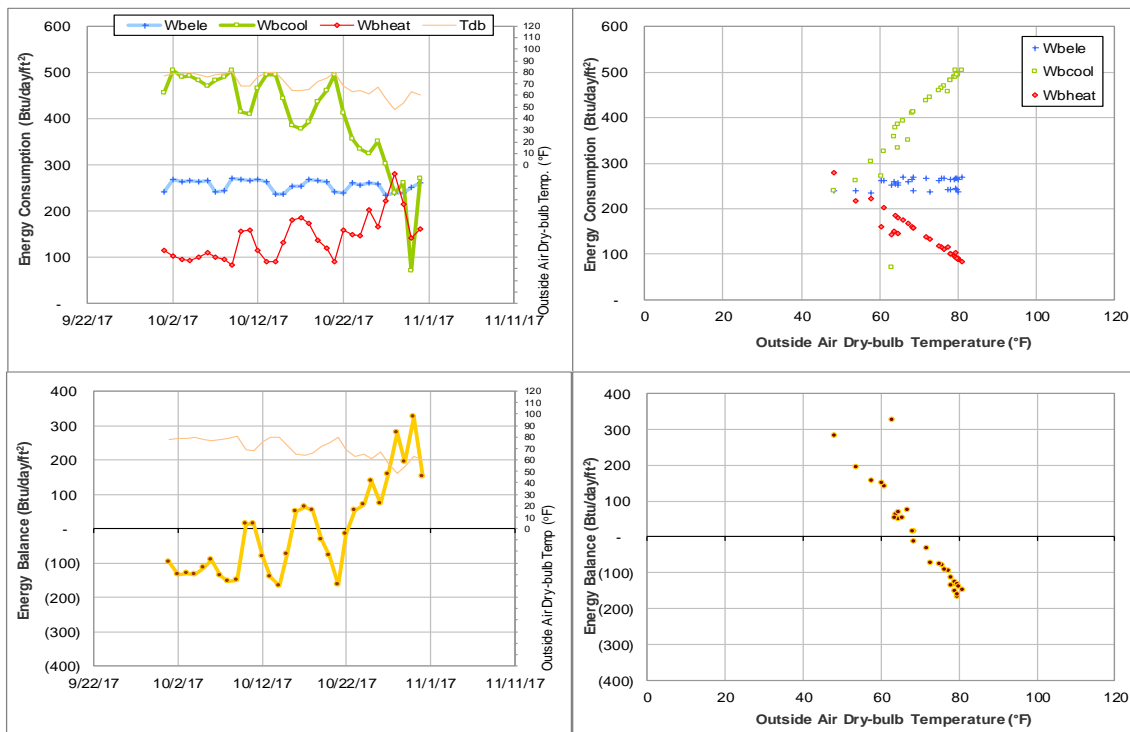


Figure V-18 Offshore Technology Research Center TAMU BLDG # 1604 Energy Balance Plot during October 2017

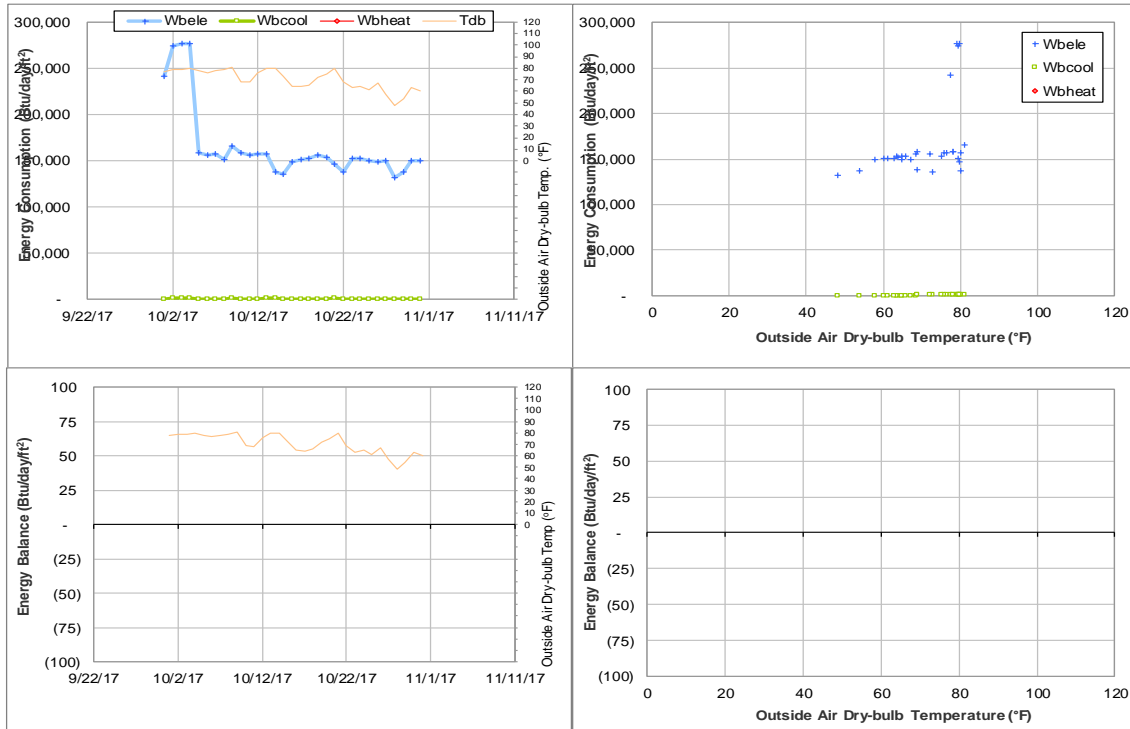


Figure V-19 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during October 2017

## **VI. Appendix**

ENERGY ANALYSIS GROUP



**ENERGY SYSTEMS LABORATORY**  
TEXAS A&M ENGINEERING EXPERIMENT STATION

**Project:** TAMU Energy Consumption QC/QA Analysis\*

**Report:** Energy Consumption Data Quality Assurance/Quality Control  
Assessment Report for the Month of October 2017

**Prepared for:**

Utility & Energy Services  
Division of Administration  
Texas A&M University

**Authors:** Xiaoli Li, Kimberly Jones, Hongxiang Fu  
Dr. Juan-Carlos Baltazar, and Dr. David Claridge

**Date:** November 2017

\* For information on this report please contact Dr. Juan-Carlos Baltazar.